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ABSTRACT

The content of this kindergarten curriculum guide for conceptual language development is organized in six parts. Part 1 presents a brief overview of the nature of the 5-year-old child and discusses the topic of prekindergarten screening. Part 2 elaborates on a child-centered, individualized approach to kindergarten programs and emphasizes the value of learning through play. Part 3, which focuses on the use of learning centers, offers suggestions for planning a learning environment that facilitates language and concept development in the kindergarten. A rationale and suggestions for using the Language Experience Approach to Readiness and Beginning Reading, as well as a list of skills, are presented in Part 4. Ten units of study are described in Part 5. The remaining section consists of appendices which supplement the content of the guide and include detailed information on prekindergarten screening procedures, and an extensive list of resources for the teacher. (RH)

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KINDERGARTEN CURRICULUM
FOR CONCEPTUAL LANGUAGE DEVELOPMENT

International Year
of the Child



Celebrate Children
Maine Salutes in Spirit
The International Year of the Child

Maine Department of Educational and Cultural Services
Right to Read Office
Nina S. Samson, State Director

FOREWORD

The purpose of this guide, which embraces an individualized, child-centered approach to kindergarten curriculum, is to provide the teacher with a suggested framework for developing programs which emphasize language and thinking skills. Presenting opportunities for growth and development in these areas is critical as they are the foundation on which all other learnings are based. Major emphasis is also placed on the Language Experience Approach to readiness and beginning reading, as this approach best reflects a total integration of the language and thinking skills.

Mollie Reynolds, Director
Division of Curriculum
Bureau of Instruction
Department of Educational and
Cultural Services

Throughout this guide the word she is used to refer to the teacher and he to refer to the child. This was done to eliminate the awkwardness which can come from the repeated use of he/she. We realize that the plural could be used when referring to the children. However, the entire focus of this guide is the individual child; the use of the plural form would present a gross contradiction.

INTRODUCTION

The content of this guide has been separated into six parts. Part One presents a brief overview of the nature of the five-year-old and discusses the topic of pre-kindergarten screening. Part Two elaborates upon a child-centered, individualized approach to kindergarten programs and emphasizes the value of learning through play. With these foundations laid, Part Three offers suggestions for planning a learning environment which facilitates language and concept development in the kindergarten. A rationale, specific suggestions for utilizing the Language Experience Approach to Readiness and Beginning Reading, as well as an accompanying skills list, are presented in Part Four. Ten units of study, arranged in a sequence which the reader may wish to consider, are developed in Part Five. The remaining section consists of appendices, which supplement the content of the guide, and an extensive list of Resources for the Teacher. Since metric measurement will be used in all schools in Maine commencing in 1980, these units of measurement are used when appropriate throughout the guide.

We are cognizant of the fact that a guide is only a guide, and cannot, nor should it, provide the answers for each teacher. However, we are confident that the suggestions presented speak to the needs, varied learning styles, and concerns of children. They reflect the principles of child development, the interests and natural curiosity of children, and the value of a flexible curriculum in developing language and thinking skills.

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THE CHILD

THE FIVE-YEAR-OLD

INDIVIDUAL DIFFERENCES are key words to remember when describing the five-year-old. Mary may easily climb the ladder to the slide and shoot down, screaming with glee. Hesitantly, Jamey may carefully climb the steps, holding his breath, and slide down with a tinge of fear in his eyes. Perhaps Ann will refuse to go near the slide. Susie seems to talk all the time. Andy, though, is the thinker who speaks only after deliberation. It may be weeks before Mark contributes anything to a class discussion. Jason, who has had two years of preschool experience, enters the kindergarten room by himself, knows where to hang his coat after the first day, and heads for the play area. Jane is having her first experience with separation, and it's a long time before she leaves her mother without tears. As with their capabilities, the physical growth attained by five-year-olds varies widely: heights from 40" to 48", and clothes sizes from a four to a six-x.

Keeping these and other variations in mind, there are, however, some identifiable characteristics common to many five-year-olds.

Physical

The five-year-old is a physical, moving being. He needs activity. He cannot sit still for long--he'd rather be jumping, climbing, suspending himself vertically. Many five-year-olds are strong, although not fully coordinated.

Intellectual

A five-year-old's intellectual growth is very closely related to activity. He learns through his play, by thinking out loud, by questioning, by problem-solving, and he loves guessing games and riddles. Many thinking skills are not fully developed at this stage. Some of these include:

Classification - Grouping items on the basis of common attributes, functions, and association.

Seriation - Such things as big/little; large/small; high/low; long/short; fat/thin; same/more/less.

Spatial relations - Awareness of his body and its place in the world.

Temporal awareness - Things dealing with time; start/finish; begin/end; first/last.

The five-year-old, however, is on the way to mastering these prerequisites for logical thinking and reading readiness. He is eager for information, and always curious about what lies beyond himself. He cannot concentrate for long on any one interest--he must move on.

Language

One reason the five-year-old enjoys being in a group is that it affords an opportunity for constant talking, the spontaneous chatter that he loves. At this age, talk is primarily for social communication; learning takes place more through play than through words. Showing or drawing is more comfortable than describing.

A five-year-old usually has a good grasp of the vocabulary, structure, grammar, and syntax of his native language, although he seldom knows the exceptions to the rules. He loves to use new, big words, but may not be sure of their meanings. His inventiveness with language asserts itself in rhymes and crazy jokes.

Social

Many five-year-olds enjoy identifying with the whole group, although most prefer the friendship of one or two children. As the dependence on adults diminishes, the importance of peer relationships grows. This is a time when the five-year-old is **beginning** to learn how to resolve disagreements- fights are usually short-lived. Still, personal feelings are far more important than anyone else's. There is only one perspective for a five-year-old--his own! **His** point of view is all that matters--never mind how limited!

The five year old has a hard time with games, because losing is so difficult. "Cheating," changing the rules, or demanding exceptions readily become a strategy for winning.

In other words, he is still in the process of maturing into a social being.



Emotional

The five-year-old is developing a concept of his inner worth. He may believe that everyone likes him, or he may be very defensive. This self-concept directly affects the learning process. He is beginning to be more assertive in expressing ideas. Because he is ready for more responsibility, he wants to be a "helper." Although he may hesitate with new materials, he is gaining confidence and usually will try new activities.

On any given day, you might find a five-year-old exhibiting independence and dependency, competency and ineptitude, maturity and infantilism, affection and antisocial destructiveness. The five-year-old is still a creature of feeling who laughs and cries with ease and who needs affection and large doses of support.

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PRE-SCREENING AND UTILIZATION OF DATA

There are many identifiable characteristics common to five-year-olds; however, there are also many individual differences which can affect progress in kindergarten. While pre-kindergarten screening is a mechanism for determining those children who may be in need of more in-depth, specialized assessment, the general data gathered also provides the teacher with a beginning point for the continued and more concentrated observation of each child throughout the year. In addition, these data suggest starting points for providing appropriate classroom experiences which reflect each child's level of development. This section will address the topic of screening and present suggestions for its implementation and use of the information gathered.

The following questions and answers are excerpts from the *Pupil Evaluation Team Handbook* - State of Maine Department of Educational and Cultural Services (1978). They provide us with an overview of the screening process:

- *What is the purpose of screening?*

The purpose of screening is to insure that all children who may require special education programs or services are located.

- *Who must be screened?*

All children entering school for the first time.

- *Who is responsible for screening?*

Each administrative unit must screen all students who attend its schools.

- *What does a complete screening cover?*

Maine state guidelines suggest that the following areas be assessed:

1. Health
2. Vision and hearing
3. Cognitive and motor skills
4. Language functioning (in the child's primary language)
5. Current and past educational status and progress (in the case of preschool children this may include pre-academic skills)
6. Behavioral and psychological functioning

- *How can we avoid screening problems?*

1. Keep your screening program simple! A good screening process, although comprehensive, must be fast to administer and interpret. Children with severe problems should be relatively easy to spot, and they must not be kept waiting for the special services they need.
2. Keep your staff informed! Make sure school personnel understand the purpose and process of screening. Hold inservice training sessions for those involved in screening.
3. Keep your screening program balanced! Is screening in your school left mostly to the classroom teacher? You may be missing students with slight, but damaging, vision or hearing problems. Are parents involved in screening? They can provide valuable clues to behavior. Is your program weighted heavily toward academic problems? Toward behavioral problems? Over or under emphasis of a single element weakens the effectiveness of the entire program.
4. Establish criteria for identifying students in need of further evaluation! Commercial screening instruments usually identify a cut-off point for identifying children

who may need special education services. If you use a district developed instrument, be sure to establish criteria for identifying possible handicapped children.



Test Selection

Screening instruments must be selected with care. Attention should be given to: items tested and their relationship to the kindergarten's goals and objectives; time required; ease of administration; reliability and validity of the instrument; the group sampled for normative data and cost. While many school systems prefer to develop their own informal measures, one testing instrument which covers many of the commonly accepted areas is the *Boehm-Slater Cognitive Skills Assessment Battery*. * These areas include:

1. Basic information - name, birthdate, etc.
2. Boy-girl
3. Body parts
4. Color identification
5. Shape identification
6. Number knowledge
7. Information from pictures
8. Picture comprehension
9. Story comprehension
10. Multiple directions

*Please see Appendix Two for other appropriate pre-kindergarten screening instruments.

11. Large muscle coordination
12. Auditory memory of meaningful words
13. Visual motor coordination
14. Sentence recall
15. Vocabulary
16. Visual memory
17. Symbol discrimination
18. Letter discrimination
19. Letter naming
20. Visual auditory discrimination
21. Auditory discrimination
22. Copying shapes

An accompanying checklist allows recording of responses during the test. The above areas may be easily grouped and adapted to the station set-up. Use any grouping which seems natural.

Implementation*

Establish station tasks approximately ten minutes in length to accommodate six to eight children per hour utilizing kindergarten teachers, specialists, and health personnel. Children can then be rotated through the stations, using some kind of tagging system to ensure that each child gets to every station (stars on clown faces, jewels on a crown, etc.) Student volunteers may act as escorts.

While the children are being screened, the kindergarten teacher should then meet with parents to explain the screening process, and to help with developmental histories. An introduction to kindergarten might be in the form of a filmstrip presentation. An informal coffee might be desirable. This is an excellent opportunity to enlist volunteers for future use for field trips, classroom projects, etc.

Utilization of Information Gathered

Once the tests have been scored, it is beneficial for the entire group of specialists and teachers to meet, share observations and record results. A full day may be necessary for this.

A large chart with names of children down the side and testing areas across the top is especially helpful. Checks to show areas of concern could be recorded at the time of the group conference immediately following the screening. Provision should also be made on the chart for comments regarding parental concerns. The kindergarten teachers might be responsible for checking the developmental history forms and making notes of these concerns.

By checking the chronological age against the mental age as estimated by, for example, the *Peabody Picture Vocabulary Test*, children with possible or special needs as well as the potentially gifted can be identified. The following is a sample of a chart developed by one classroom teacher who uses it as a ready source of information about her children.

*See Appendix One for an example of specific procedures as developed by the Portland Public Schools.

FIGURE ONE: Utilization of Pre-Kindergarten Screening Data

NAME	AGE (CHRONOLOGICAL)	M.A. PPVT	HEARING	EYES	DENTAL	ARTICULATION	LANGUAGE	BASIC INFORMATION	LARGE MOTOR	VISUAL MOTOR	COLOR IDENTIFICATION	SHAPES	AUDITORY DISCRIMINATION	AUDITORY MEMORY	NUMBER KNOWLEDGE	PICTURE COMP.	EYE-HAND	DEVELOPMENTAL HISTORY	COMMENTS
Adams, D.	5-6	6-2			✓	✓		✓			✓	✓			✓				has dentist appointment
Doe, J.	5-5	5-2		✓			✓	✓					✓	✓					Speech
Jones, J.	4-11	5-8		✓		✓			✓		✓								had eye operation under doctor's care
Smith, B.	5-2	3-11					✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		refer to PET
Taylor, J.	5-1	5-1	✓				✓	✓							✓	✓			Syntax
Thomas, B.	5-4	5-7												✓			✓		
Williams, A.	5-6	5-5				✓				✓							✓		
Wood, K.	5-3	5-9									✓	✓				✓			
Woods, S.	5-8	5-6					✓	✓		✓			✓	✓	✓	✓			Watch

The pre-kindergarten screening process will be the first exposure to a testing situation for many of the children. This inexperience, coupled with variables in physical conditions, may be responsible for inaccuracies in the test results. The results can alert you, however, to areas where you will want to watch progress.

When used with caution, data from this process can be invaluable in:

- Charting a profile of the class
- Developing a program based upon the needs of the children
- Planning additional programming for children with special needs

Kindergarten teachers are thus provided with a better understanding of the child's skills, attitudes and emotional and social factors which might influence success in the regular kindergarten program.

"Knowledge of a child's abilities and limitations will help the teacher to structure learning situations so that the child meets success rather than frustration during this critical year."

¹Mindess, David and Mindess, Mary, *Guide to an Effective Kindergarten Program*.

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Parker Publishing Company, Inc., 1972

Portland Public Schools, "*Pre-School Screening Procedures*." Portland, Maine, 1978 (mimeo)



**PART TWO
OF THE KINDERGARTEN
PROGRAM**

GOALS OF THE KINDERGARTEN PROGRAM

PHILOSOPHY STATEMENT

A program in which learning is fruitful as well as fun is based on clear goals. The materials are selected and the experiences planned to develop the goals. The general outcomes for all learning experiences are: a child who has a positive self-concept; a child who is healthy and physically coordinated; a child who is growing in his ability to deal with children, adults, and his emotions; a child who expands his concepts and ideas about the world; a child who can use language to communicate with others; a child who can express himself in many ways; a child who is curious and wants to learn.

These general outcomes can be met by developing a teaching-learning process that is reflective of principles of child development. First a child learns best if he is actively involved in the learning process. Thus letting a child manipulate magnets is better than showing him what they can do; letting him play fireman teaches him more than telling him what firemen do.

Secondly, a child learns best if the curriculum reflects his interests rather than imposed, teacher-structured, and workbook oriented activities.

Thirdly, a teacher can stimulate and develop thought through questions. These questions should be open-ended, that is, not answerable with "yes" or "no," but instead require problem solving and the verbal expression of reasoning. For example, after a field trip to a train depot a teacher might ask more than how many trains there were. Instead, she would stimulate thought by asking:

- Where might the trains be going?
- What might happen if the trains didn't run?
- How are trains like trucks?
- How are they different from trucks?

Lastly, a child's development in one area is intimately connected to his growth in another area. A child who lacks self-confidence or has a poor self-concept can hardly be expected to learn math concepts or reading readiness skills as readily as a more confident child. For this reason, the teacher should provide an emotionally supportive, freeing environment that accepts each child for what he is and wants to be.

If a program is to reflect children, how they learn, grow, and develop, it must provide opportunities for learning through play.

LEARNING THROUGH PLAY

Play Today?

(by Leila P. Fagg, *Young Children*, Jan. 1975)

You say you love your children
And are concerned they learn today?
So am I - that's why I'm providing
A variety of kinds of play.

You're asking me the value
Of blocks and other such play?
Your children are solving problems.
They will use that skill every day.

You're asking what's the value
 Of having your children play?
 Your daughter's creating a tower;
 She may be a builder some day.
 You're saying you don't want your son
 To play in that "sissy" way?
 He's learning to cuddle a doll;
 He may be a father some day.
 You're questioning the interest centers;
 They just look like useless play?
 Your children are making choices;
 They'll be on their own some day.
 You're worried your children aren't learning;
 And later they'll have to pay?
 They're learning a pattern for learning;
 For they'll be learners always.

In speaking on the value of play, Susan Isaacs, a noted British educator, commented:

If now we compare...the more adaptable and intelligent animals with the less, for instance, the reptiles and fishes with the mammals, we notice something which throws much light on human childhood - viz., the fact that the animals which are able to **learn** more are also able to **play** more. Those with fixed and inherited instincts play not at all; the young behave as the old from the beginning, and there is nothing to add to the wisdom of the species. But the playing animals, and in proportion as they play, gain something of an individual wisdom. They are curious, the experimental animals. The young lamb skips, but only for a short time, and soon settles down to a sheep-like stolidity. Whereas the kitten plays on, and tries its way about the world with playful paw and nose, long after its size might lead us to expect a sober maturity. Those animals nearest of all to ourselves, the monkeys and the ape, are like us in keeping the will to play even into maturity; but no animal young play so fully, so inventively, so continually, and so long as human children.¹

Most of us accept without question the value of play for young children. We know that they learn social skills and gain mastery of emotional problems through their play interaction with peers and toys. Some schools and some parents, however, view "child's play" as trivial, wasteful of time and at best, a way of releasing energy. We may also know that they are learning other skills as well through the work of play, but it is often more difficult to explain this area of learning through play to the parent or school board members who wonder why we let kindergarten children play so much when we should be "teaching" them something. A closer examination has shown that play is very meaningful and necessary for a health physical, emotional, and social development. Kindergarten teachers need to understand this view and interpret it to the public. It is important that we be able to articulate the relationship between a child's activities in play and the development of skills needed to learn how to read, write and do other traditional "school" work.

Teaching possibilities inherent in play are as numerous and as varied as are the children's interests.

¹Cohen and Rudolph, *Kindergarten and Early Schooling*, pp. 97-98.



The following is a list (not exhaustive by any means) of some of the learning which can take place while a child is participating in play experiences:

1. Language Development

- Naming
- Shape recognition and naming
- Concept mastery
- Vocabulary
- Sentence structure
- Thought organization and expression
- Listening

2. Physical Development

- Fine motor development
- Gross motor development
- Eye-hand coordination
- Left-to-right and up-and-down eye movement
- Concept mastery

3. Emotional Development

- Free expression of feelings
- Sharing feelings with others
- Releasing tensions, frustrations and fears

4. Social Development

- Acceptance
- Cooperation
- Sharing experiences
- Group interaction skills

How do children learn these skills through play? And what relationship does each have to more formal reading-readiness skill development? The following examples demonstrate a few of the areas mentioned, developing a systematic way of answering the two questions.

1. Language Development

One of the prerequisites for reading is a solid base in language. This means that a child understands that language is a way of communicating with others, that words have meaning. It means that a child has a basic vocabulary and an intuitive understanding of grammar - standard sentence structure and use of words, an ability to organize thoughts and express those thoughts to other people. Only with this basis in language will a child be able to move from communicating verbally to communicating through the written language - reading and writing. When children engage in play activities with each other, they are learning and refining their ability to use language for communication. They begin to clarify for themselves the grown-up world: setting the table, going to the store, caring for the baby, dressing up, carrying on telephone conversations, disciplining children, cooking, and taking all kinds of roles. They become mothers, fathers, teachers, Superman, firemen, Indians, cowboys, soldiers, ambulance drivers, and astronauts. Props found in a dress-up corner (clothes, play telephones, household utensils, and tools) can enhance this kind of play. Signs and labels (*stop, go, sand toys, trucks, firehouse, grocery store, spaceship*) are made and used in their play; they can also be useful in putting toys away. Block shelf signs provide a good example; a drawing of a particular block, including proper shape and size, is placed on the proper shelf. Later, as children request the change, a word sign can be added or substituted. Children eagerly read and learn language skills from what is meaningful to them.

A dramatic play situation involving two or more children requires the children to use their vocabulary, to formulate ideas and express those ideas to the other child (or children) involved. They must listen to know what the other child wants done or is saying. They may have to give or follow directions to keep the play going. The individual children must have some agreed upon direction for the play activity, shared through talking with each other before and during the play. This involves sequencing events (giving them some order), understanding the concept of cause and effect (*"If I do this, you will do that, or this will happen"*), time (*"Pretend it's night time"*) and relationships (*"I'll be the mommy, you be the daddy and Mary can be our baby"*). These are only a few of the language concepts which are developed through play activities, but they begin to demonstrate the variety of learning which takes place.

2. Physical Development (Fine and Gross Motor Development)

In order to read and write, there are several motor skills which children must master. In order to read, the child must be able to hold the book properly, be able to turn pages, move his eyes from left to right, from the top to the bottom of the page and then up to the top again. In order to write, the child must be able to hold a pencil in a firm grasp, and control the movements of the pencil as letters are formed on the paper. These skills do not suddenly appear when the child enters kindergarten. They must be developed through active use of muscles as the child grows and are most easily learned through a variety of play experiences. Although the child entering kindergarten may have some or all of these skills, there is usually

still a need to further develop or refine the motor abilities involved.

Play promotes gross motor development as children balance, climb, crawl, jump, skip, push, pull, throw, and hop; all of these done successfully lead further to heightened self-confidence. Fun and exhilaration are part of physical play, and, at the same time, coordination and agility are enhanced. In addition, the discovery of spatial relations, laterality (left and right), and directionality (up and down) are all fundamental concepts. Adults must not be too restrictive, yet make sure something within each child's abilities is available; children will usually only attempt what they think they can manage.

Directed movement/play affords the child the ability to perfect control of his body, see his body in relationship to self and general space, and vice versa. Teachers can arrange A-frames, ladders, boards, barrels, tires, cardboard boxes, and so on into obstacle courses to improve motor-control activities. These are accompanied by informal talk, singing, clapping, or a drum beat, so children will see them as fun times; even children with immature motor performance will choose to participate in them again. Children can be encouraged to create their own hopping, walking, balance or combination course outside by using chalk on the pavement; the natural terrain is employed to make bridges, tunnels, and steps. Another exciting outside project is "painting" the brick and concrete walls with buckets of water and large paint brushes. For developing eye-hand coordination, beanbag games, ring toss games, and catching and tossing games with balls and beanbags can be used.

Play with puzzles, blocks, paint brushes, crayons, small building items, scissors, clothespins, buttons, etc., help to develop coordination and fine motor development which the child needs in order to hold and control a pencil for writing activities. Practice of fine motor skills through a variety of play activities leads the child finally to the ability to control his movements for writing activities.

Beyond a child's sheer joy of movement and his strong impulse to touch and manipulate materials, neurologists and physical education specialists are saying that bodily control gained in play underpins the neurological integration necessary for learning to read. So when children walk across a balance beam, roll clay in their hands, leap from high structures, or create structures with blocks, they are strengthening the neurological structures they will eventually need for the less physical, academic learnings that schools require.

Play can be directed to help children improve their execution of movement and develop language concepts. Through movement exploration, children explore, investigate, and invent movements to teacher suggestions.

Teacher: *Jump over the river...*
Stand before me...
Run under the table...
Be a fat cat...

3. Emotional Development

Play promotes emotional development as children use it to reduce tensions and gain mastery over their fears and anxiety. It is important that they have outlets for reducing these and draining them off in play. The play of children often reflects the struggles to learn to manage emotions. The developing self-concept of children is mirrored in play behavior; every time a child's efforts are successful, they give rise to feelings of self-worth. A strong ego allows the child to accept the consequences of his behavior, and, when he's old enough, to accept constructive criticism and admit mistakes without feeling damaged. If a child can handle play and real-life situations positively, he will develop confidence to accept new challenges as they come along.



An aware and observant teacher can give special attention to children who lack the needed emotional control required in group play. She can help such children make choices of what to play or where to play. She can often prevent difficulties in advance of "blow-ups." Perhaps a new setting of play, a secluded spot for a few moments of quiet, or enlisting a child's help in arranging equipment can be suggested. An upset child can be redirected to let off his anger or frustration by digging in the sandbox, squeezing some mud, or punching away at a punching bag. Positive reinforcement such as a gentle pat, hug, or praise can help develop positive behavior. Activities which are suggested for a kindergarten classroom include the following: an easel in a quiet corner to paint out one's feelings, a soothing water table, a sand box, some pans and a scrub board to wash doll's clothes, a small table for clay work.

4. Social Development

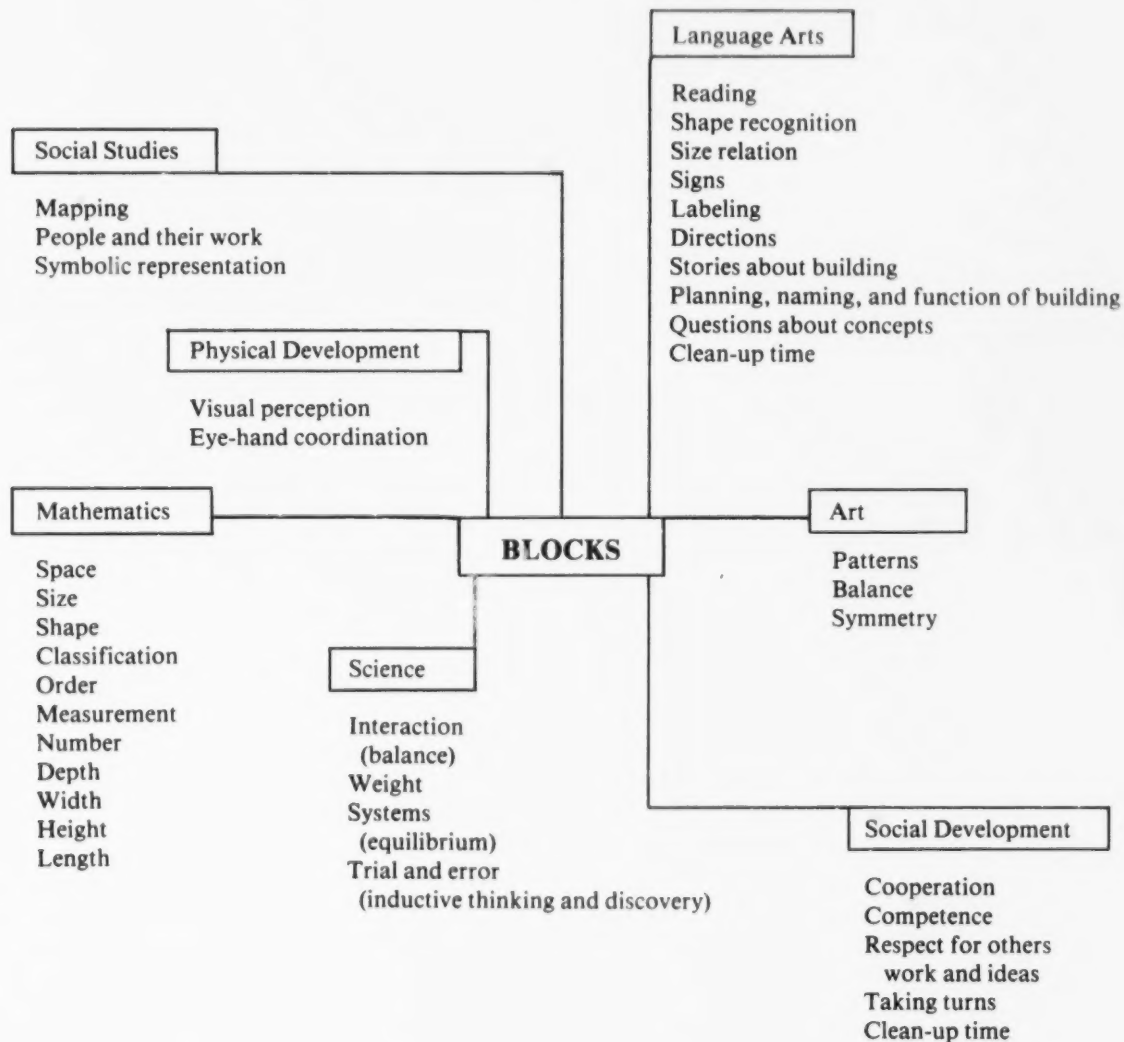
Play promotes social development as children, playing with companions at their own stage of growth, are forced to take into consideration positions taken by others in order to continue playing. Their egocentric viewpoints are challenged, and this results in a broadening of their social perspective. Children are encouraged to cooperate, to help one another, to share, and to take turns. Children and teachers together can discuss problem situations and reach an acceptable solution. Children can also plan together before going to the playground: making choices of equipment, discussing safety rules, and planning projects.

LEARNING THROUGH PLAY

Blocks are commonly found in kindergarten classrooms and play a very important part in the kindergarten curriculum. Because of the variety of ways in which children explore with blocks, they provide learning experiences for children in each of the four major categories described above. They have been found to be the most useful medium for self-education with which young children can play and work.

Children choose blocks more often than paint, clay and other materials usually found in the kindergarten classroom, and only dramatic play comes close to blocks in popularity. The chart below, adapted from Elizabeth Hirsh (1974), illustrates many of the values that come from block building:

LEARNINGS THROUGH BLOCK PLAY





A value often overlooked in block building is the art medium. Here the children play with the form and balance of blocks. Typical stages that young children pass through are the following:

1. **Repetition** - This usually appears as one of two forms, the tower or rows along the floor. It is the first constructive use of blocks; a pattern is repeated over and over again. Interest in these types of construction in and of themselves is usually short-lived; they are eventually incorporated into more elaborate creations.

2. **Bridging** - This occurs when a child sets up two blocks and places a third block between them to bridge the space. It is sometimes a difficult problem to place the uprights at the appropriate distance apart so the third block will fit. Once this technique is mastered, repetition takes place again.

3. **Enclosure** - This occurs when four blocks are put together so that the space is completely enclosed. This again is not a simple task. As a child's skill with blocks develops, he uses more blocks in more imaginative designs.

4. **Patterns** - Once children really feel comfortable with blocks, they begin to build decorative and balanced patterns. Often a child places a block at the right, then at the left, or a block at the front, then at the back - the construction always remaining in balance.

5. **Representation** - This occurs when children decide to name their buildings. It does not mean that the buildings must resemble what they are labeled. Often the name is announced as an advance plan. Dramatic use of the blocks can now begin. Perhaps buildings are constructed by individual children, but the play with them later can be cooperative.

Numerous mathematical concepts are also gained from block building. In order for a child to describe his world, he begins to use the language of mathematics. Usually a child's ability to "do" something precedes his ability to talk about it, but eventually the two will merge. It is difficult for a child to discuss spatial relationships without using these words: *up; down; over; under; above; below; behind; backwards; forwards; far; and near.*

Children become familiar with quantity when they speak of needing "many more," complaining of "not nearly enough," or building a "two-lane road." The related shapes of the blocks hold much interest for the children: they notice similarity in shape and difference in size, and they make exciting discoveries that two blocks put together can make a new shape. Children seem to be able to quickly name the shapes of the blocks after such concrete experiences. Even pick-up time is a learning time: the blocks are classified according to shape and size, and are shelved in that manner.

For a child to be able to understand how things are related, he must be given words that describe likenesses and differences. This vocabulary gives him a further means for experimenting, reasoning, and thinking about relationships; it needs to be provided by the teacher at the right time so a concept can develop appropriately. The teacher also needs to know how to extend an experience, ask the right question, or pose a new problem. The teacher's major function is to facilitate the children's self-chosen activities.

When an interesting structure has been built, a teacher may ask the children if they would like to write a story about it. If so, the story is dictated and written down. Such learning activities as naming letters, emphasizing beginning sounds, and finding alike words can be pursued. This is all done on an informal basis, with care so that the children do not lose interest in telling their story. The ultimate goal is to help them understand that anything they say can be written down and read.

Many science concepts are learned in block building, but it is difficult to isolate those from the areas of mathematics and geography. These concepts include size and shape (mathematics) and space, distance, direction, and mapping (geography). Again appropriate questions and comments can informally teach science content: "*What will happen if you put the big block on top?*" "*Do you know how to balance the long blocks with some little ones?*" "*Can you take your building down without it falling down?*" (the idea of reversibility), or "*Can you make a ramp for the cars to go into the garage?*" A miniature world can be created for the tiny trucks, cars, and people as children strive to approximate distance and direction in mapping out a reproduction of the larger world.

All these concepts can be learned through block building when favorable conditions exist. A lavish supply of unit blocks is needed, and learning can be enhanced with appropriate accessories (small cars, trucks, boats, signs, animals, and human figures). These are especially helpful with Social Studies concepts (cities, families, roles, transportation, etc.). There needs to be the necessary space and time for block building; if a "Creation" needs to stay up for a few days (with reasonable explanation from the children), the teacher should comply. Another necessary condition is that the kindergarten program should be one that gives children first-hand experiences which make them more aware of their world and their place in it. Perhaps the most important condition concerns teacher attitude; she needs to feel a genuine enthusiasm for the block building program, and recognize and respect all of its possibilities.

Learnings of all kinds can take place in a context of playfulness in the kindergarten. Play, essentially, is the curriculum. It can cover an almost infinite variety of activities to provide for every kind of development necessary for a healthy happy child.

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PART THREE
THE LEARNING ENVIRONMENT

THE LEARNING ENVIRONMENT

TEACHER'S ROLE AND RESPONSIBILITY

We believe that the learning environment provided for children is basic to their school experience and should reflect three major elements:

1. A knowledge of how children learn and a basic trust in their innate desire to learn;
2. A well-defined set of instructional goals and objectives; and
3. Opportunities for individualization of instruction.

While the teacher cannot control such elements as large classes, inappropriate furniture, inadequate space, inappropriate and unimaginative materials, and the general lack of supplies, she can with effort and imagination work within these confines to provide an optimal learning environment for children.

Belief and Trust in Children

Frequently the teacher is portrayed as a director of learning. She is expected to stand in front of the classroom imparting information, giving directions, justifying her authority, telling, clarifying, ordering, etc. In a nurturing environment, the teacher trusts in the child's innate desire to learn by stimulating, facilitating, accepting, and observing children. Children learn best when they have freedom (within limits) to function as explorers, experimenters, discoverers, problem solvers, and learners.

Instructional Goals and Objectives

After a professional philosophy has been determined and teaching style clarified, it is critical that the teacher formulate general goals for the year as well as specific short term goals, objectives and strategies for attaining them. What is it I want the children to learn? How will I help them learn it? These are vital questions which must be given careful consideration. However, we must not get so caught up in meeting our goals for children that we are unable to incorporate opportunities for children to pursue their own interests into the curriculum.

Opportunities for Individualizing Instruction

Having determined long and short range goals for the year and having analyzed each child's needs assessment, the teacher must provide appropriate learning experiences for all her children. Individualized instruction is not limited to one-to-one situations. In its broader sense, it means appropriate instruction for each child. There are times when one, two, four, six members or larger groups have the same or nearly the same needs. The key elements are identifying those needs and providing appropriate experiences. When teachers group, it should be for appropriateness of instruction or a reflection of student interests, or a combination of both of these factors.

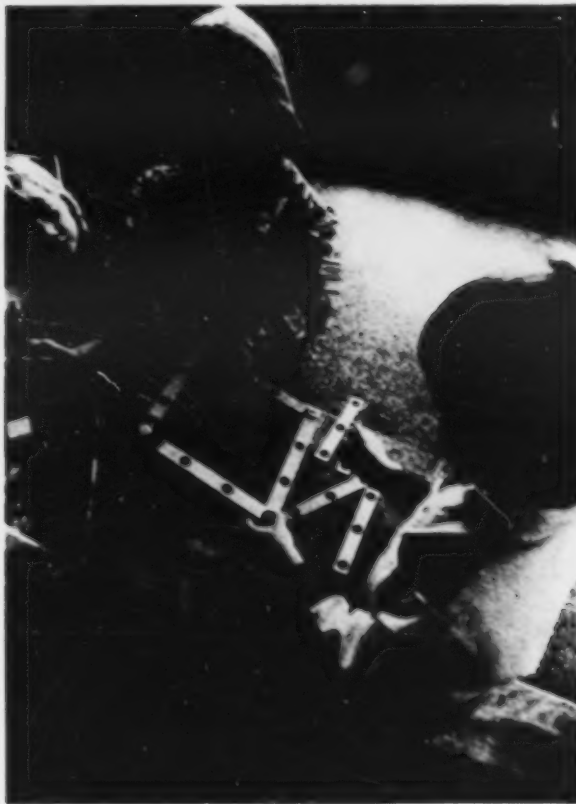
In a nurturing environment, it is paramount that children see themselves as learners and have ample opportunity to make choices and take responsibility for their own actions as well as a portion of their learning. The teacher's role is clearly that of a facilitator. Providing undirected, self-selected activity is vital if children are expected to integrate and assimilate the total strategy for learning. When children are real participants in the learning process, they usually surprise the teacher with the quality of their own thinking, and the interest they show in their individual work as well as in each other's progress. While conformity, rules and regulations are occasionally appropriate, there are many situations in which students can and should make their own decisions within the classroom environment. An effective approach for providing this experience is through centers.

WHAT IS A LEARNING CENTER?

A learning center is a designated area of the classroom that contains a variety of instructional activities and materials which focus on a topic, theme, concept or skill. The purpose of the learning center can be to introduce, develop, explore, or stimulate the reinforcement and enrichment of concepts and skills. A center may be classified as the availability of one activity, usually referred to as a learning station, or the provision of a multitude of experiences centered around one concept. They provide activities that accommodate different interests and learning styles. If properly constructed, centers provide opportunities for individuals or small groups of students to work independently with a minimum of teacher supervision. While teachers utilize centers differently, all concur that they should encourage self-selection, self-direction, exploration and motivation. In summary, centers provide a vehicle for shifting teacher-centered learning toward child-centered experiences.

WHY UTILIZE CENTERS?

While many of the reasons for using centers are implied in the above discussion, teachers agree that centers:



- Assist children in seeing themselves as sharing in the responsibility for their own learning
- Accommodate individual needs by providing an array of materials and activities which allow for differences in motivation, attention span, interest, and ability
- Help children grow in their ability to select materials and make decisions
- Encourage peer learning, cooperation, independence, the exchange of ideas, sharing of responsibility, self-control, and the development of communication skills
- Reflect the understanding that learning, especially for young children, is an active, not a passive, process
- Allow children to work together, thus increasing their learning through observation, imitation, and cooperation in a mutually challenging task
- Benefit teachers by providing time for individual and small group instruction, while the rest of the children are gainfully occupied
- Provide the teacher with a deep sense of satisfaction, creativity and reward

DEVELOPING LEARNING CENTERS: AN OVERVIEW

Appendices Three, Four and Five of this guide present an extensive list of references on the topic of learning centers as well as checklists for their development, implementation, and evaluation. The following are general statements which should also be of assistance.

Precise preplanning is essential for developing effective and stimulating learning centers.

This involves:

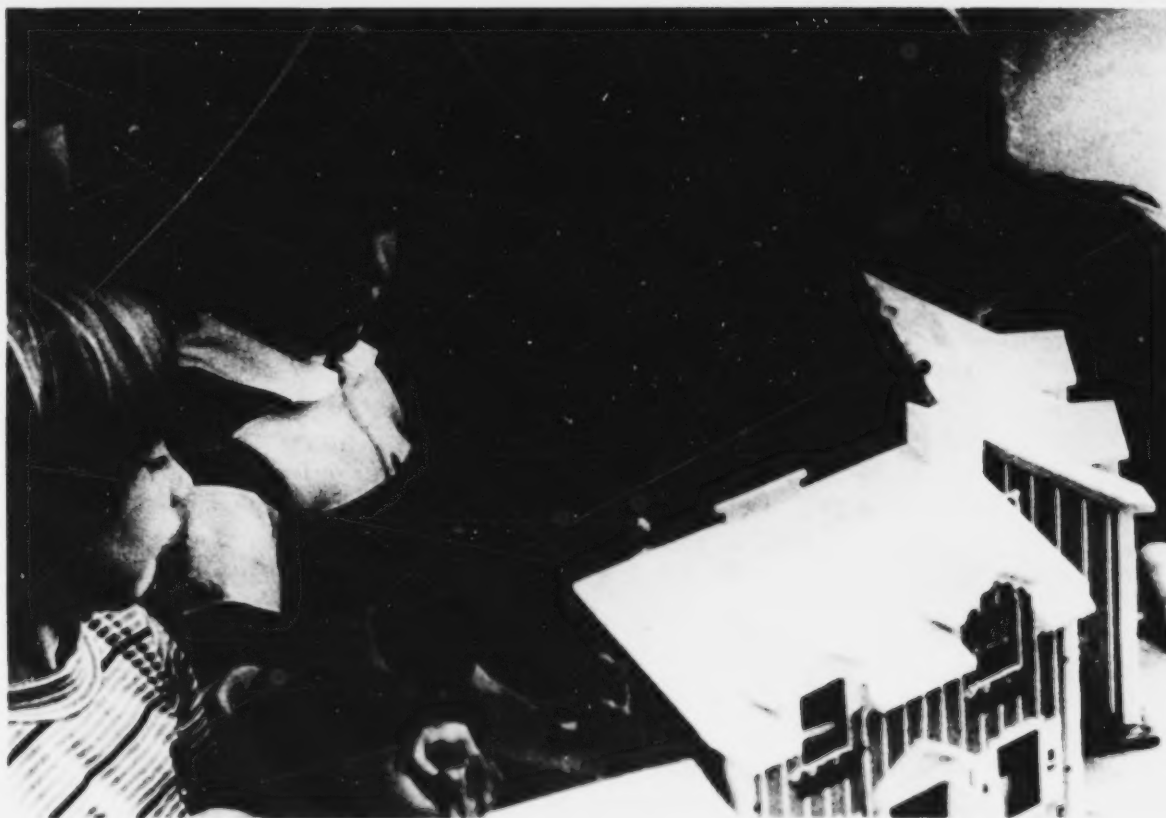
- Selection of the area of concentration
- Defining specific learning objectives for the center
- Conducting a student needs assessment to determine the range of activities which must be provided to meet each child's needs
- Choosing an appropriate location for the center (for example, it is unwise to place a listening center next to the block area).

With the above accomplished, selection and/or construction of learning activities becomes the next consideration. Again, there is a definite need to reflect on individual needs and the specific objectives to be accomplished through each activity. Often a variety of multi-media activities provides for various levels of ability and learning styles. It is also essential for the teacher to prepare clear directions to accompany each activity.

The arrangement of the center is crucial. Activities must be attractive, inviting and easily accessible to the children. Color, creativity, and imaginative arrangements will motivate student use. An interesting title or a pictorial display will draw the child's attention and enhance his desire to explore and use the center. The arrangement of the center should be practical and exciting.

Scheduling of center time also needs to be explicated. Whether a child attends a specific center assigned by the teacher, or is allowed freedom of choice depends upon the teacher, the child's ability to function independently, and his experience with centers. Prethought should also be given to such questions as: How many students can use the center at once? How much time should be available for center use? What time of day should I set aside for centers?

Not all teaching situations demand record keeping systems. The teacher determines the purpose of the center, and according to the objectives decides if record keeping for that center is appropriate. Often self checking and self evaluation lessen the need for record keeping which can become as minimal or as comprehensive as the teacher desires. It varies from center to center and may be as simple as a check adjacent to the child's name indicating involvement at that center, daily or weekly time sheets to indicate participation, a specific list of accomplishments at that center, or no record keeping system. Whatever the selected process, it is imperative that each child understands what the teacher expects from him at the center. Clear and succinct directions and expectations for center use alleviate many frustrations, disappointments and problems for both the child and the teacher.



SUGGESTIONS FOR DEVELOPING LEARNING CENTERS

As previously stated, the learning environment provided for children is crucial. Throughout this guide the model presented is that of learning centers. The number and type of centers developed is dependent on the number of children and teachers in the classroom, the resources of the school, the teacher's creativity and imagination, as well as the interests and needs of the children. It is important to remember that the list of supplies for each center is almost endless. Whatever is supplied, however, must reflect the teacher's understanding of individual differences: For example, games, puzzles, books, art supplies, etc., should range from simple to complex so that each child will be challenged at his own level.

Various centers containing appropriate activities and materials should be located in the classroom. These centers may include:

- Math Center
- Science Center
- Library Corner
- Housekeeping Area
- Block Building Area
- Water Play Center
- Cooking Center
- Dress-up Center
- Writing Center
- Physical Activities Center
- Art Center

New materials and activities which relate to the unit of study being presented should be incorporated into these more permanent centers throughout the year. Additionally, special interest centers should be added when appropriate. When these approaches are used, the development of new concepts and skills will be enriched.

The remaining portion of this section presents suggestions for developing a variety of learning centers as well as a further rationale for their use in enhancing learning opportunities for children. (Please see Appendix Three for a comprehensive list of learning center equipment.)

MATH CENTER

The present aim of teaching math is to provide the child with every opportunity to discover, experiment, and become involved in a wealth of mathematical experiences, using concrete aids as much as possible. Children actively manipulate materials to see how they work. They explore relationships between objects by touching, feeling, turning, pushing, pulling, and sliding them. In doing this, children gain an understanding of mathematical concepts, internally consistent systems of organization, and relationships.

Mathematical concepts are found in every school experience. They include quantity, size, numbers, space and time. Blocks teach the concepts of bigger than, smaller than, more than, less than, longer than, shorter than, higher than, lower than. When used in the context of building structures, these terms have vivid and concrete meaning for children. Unit blocks promote these concepts. They are designed in multiples of half units, units, double units, circles, half circles, and cylinders.

Number is another mathematical concept which is present in the everyday school experience. Every child has one chair, it's 11 o'clock, 3 children can paint, this cake recipe needs 500 ml of flour and 125 ml of shortening. Numbers are also a part of many finger plays, songs, and stories.

The child learns to recognize basic geometric shapes from his surroundings. The clock face is a circle, our tables are rectangles, the blocks are square. Sequencing can be learned in cooking activities, songs, and games. Math is all around the child. These surroundings should be utilized.

The math center may also include cuisenaire rods, puzzles, dominoes, geometric shape puzzles, parquet blocks, clocks, tape measures, rulers, calendars, measuring cups and spoons, various cylinders. Buttons, shells, pebbles, etc. can be used for sorting and classifying activities. These manipulatives will help the child develop his mathematical concepts.

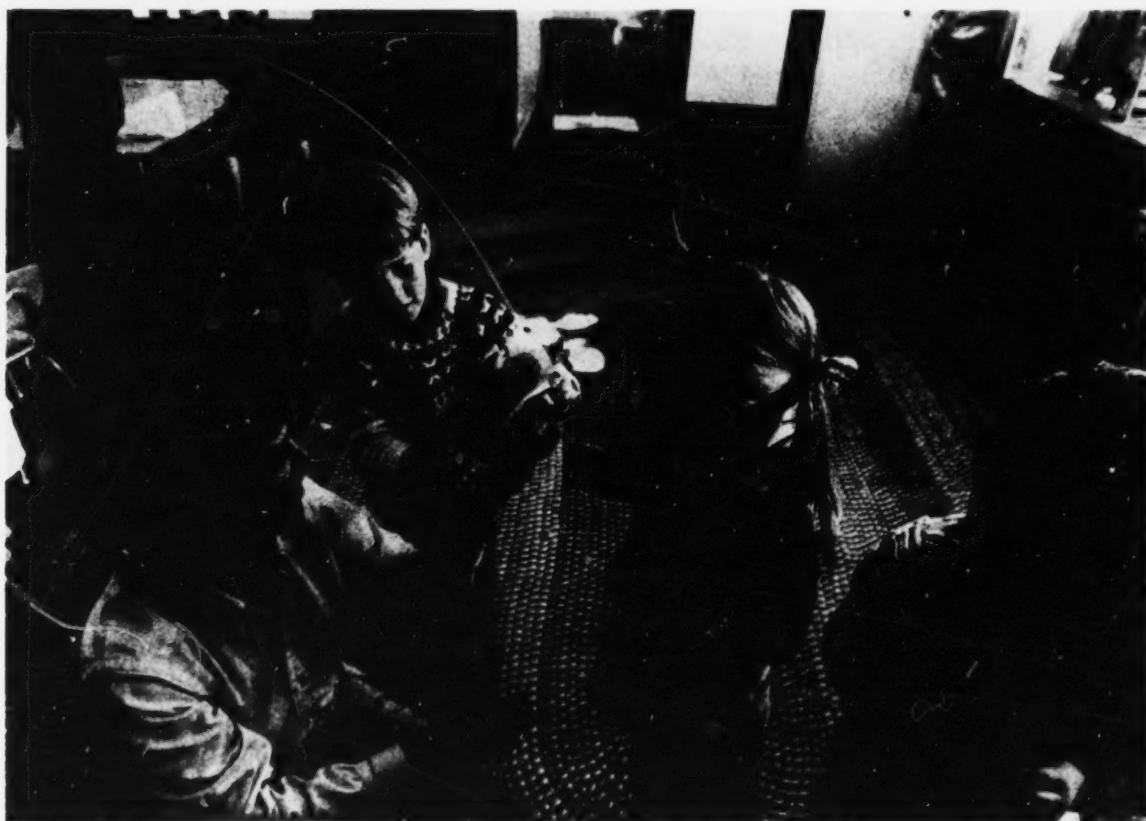


SCIENCE CENTER

Young children constantly explore the world around them. This exploration helps them gain concepts about the physical world. Satisfying their curiosity is essential for cognitive development and their comprehension of order and relationships within their environment.

The science center should contain enticing materials which will encourage the child to manipulate, explore and experiment. Prisms, magnets, microscopes, magnifying glasses, scales, balances, and assorted objects to weigh are important items for a young child's exploration. Natural objects which a child brings to school such as leaves, acorns, seed pods, ants, worms, pollywogs, caterpillars, seashells, and bird's nests should be displayed in the science area. Learning from these impromptu interests is always extended as much as possible by incorporating books, easy reference materials, discussions, or even resource people and related field trips. These displays are always exciting, stimulating, and useful sources of learning. They grow and change with the growing and changing discoveries of children.

The science center may also include live pets such as gerbils, rabbits and fish. The children can be responsible for the care and feeding of the animals. Old machines and gadgets which the children can take apart and manipulate are located here, too. The children may have containers of items, (buttons, bottle caps, macaroni, toys, etc.) to sort, weigh, measure, order and group. Every child should have plenty of time and opportunity to explore and experiment on his own.



LIBRARY CORNER

The library corner should be located in a quiet section of the room where a child can relax in comfort over a favorite book. The furniture in the library area may include items such as a book case, child-size table with chairs, a whistle or rocking chair, and perhaps a rug which would provide comfort while sitting and reduce the noise level.

Books should be changed regularly and selected carefully by the teacher to reflect a wide variety of interests. Some books should be related to the units being studied. Book illustrations should be colorful, attractive, and accurate in details. The library corner should also include children's classics, fanciful and factual stories, counting and ABC books, poetry and nursery rhymes, resource books and above all, experience books made by the individual children and the class.

HOUSEKEEPING CENTER

The housekeeping area provides opportunities for dramatic play. It should be uncluttered and located away from the main line of traffic to assure uninterrupted play. It is a miniature home, containing role-playing devices that allow children to imitate the behavior of grown-ups. This is an essential activity for healthy growth. The child must learn the appropriate societal roles first hand. The housekeeping center provides dress-up clothes and materials that can be used to play out occupational, economic and social roles. This center is also a rich arena for intellectual, motor, and social development. Cognitive and social development are enhanced when the teacher asks the children to formulate their plans for play. As children role-play, they use language to enlarge their vocabularies and grow in understanding concepts. As children interact with materials and with each other, they engage in language and materials allowing exploration, which is essential to concept development.

Materials in this area can include the following materials in appropriate sizes for children:

- Table and chair set
- Rocking chair
- Stove, refrigerator, sink, cupboard
- Ironing board and iron
- Brooms, mops, dust pan
- Doll furniture
- Dolls and doll clothes
- Dress-up clothes
- Various pots, pans, baking utensils, silverware, dishes
- Aprons, tablecloths, napkins
- Empty, cleaned food containers of all varieties

BLOCK-BUILDING CENTER

Blocks are a universal medium for expression by pre-school children. Children build clubhouses, forts, airplanes, cars, boats, fire stations, jails, and stores, and with the addition of a few dress-up clothes and props, they become pilots, drivers, sailors, storekeepers, etc. Number, size, shape, and position concepts are natural by-products of children's play. "How many do you need?" "Should this one go on top or bottom?" "This one is square!" "Let's put the little one on the big one." Children's language grows as their concepts grow. They also learn to work with others, to articulate their ideas, to plan projects, and to assume responsibility for clean-up, all in an enjoyable manner.

Blocks should be of varying sizes. They may be inter-locking, wooden, cardboard, solid or hollow. The blocks should be stored on open, moveable shelves which will help to define

the block-building area and encourage the stacking of blocks according to size and shape. Accessories such as small cars, trucks, boats, animals and human figures contribute to the quality of the child's play.

WATER PLAY CENTER

An indoor water play area is a rich storehouse of concepts for children - sinking, floating, weight, volume, color, solubility, and density. Language development is a natural by-product.

The most appropriate arrangement for indoor water play is a specially designed table with a built-in faucet and drain. However, a variety of containers can be used instead, such as a plastic swimming pool, plastic basin, large tub, or sink. Children can help in filling and emptying the water.

The teacher makes materials available according to the level of development of the children. At first, only a few containers should be on hand, allowing children to dip and spill, splash and test. Soapsuds and food coloring added at different times enhance interests and add interesting dimensions of form and color. Later, a variety of floating and sinking objects, water wheels, tubing, funnels, measuring cups, strainers, squeeze bottles, and so on are made available. Materials are stored nearby in such a manner that children can remove and replace them without teacher assistance. Waterproof aprons are essential for water play. Simple plastic materials are appropriate and eliminate the possibility of broken glass.

COOKING CENTER

Cooking is a versatile activity that can be used to realize several quite different objectives. It is intrinsically exciting; children love to do things that they see adults doing, and cooking provides an opportunity to do something "real." While cooking, children feel important, and they derive a sense of accomplishment. The child feels the importance of sharing in a group project and realizes the need for cooperation. Planning the project, taking turns at stirring, and pouring, talking about the ingredients all require individual contributions to a group effort.

Projects should be planned and presented so that the children can do the measuring, pouring, sifting, cracking of eggs, cutting, peeling, kneading, and mixing. This means pre-planning and anticipating the needs of children. The teacher may want to limit the number of children to certain kinds of activities, selecting those who are more independent to help those who are less experienced. Clean-up should be done by the children. They enjoy sweeping, washing and wiping. Materials such as brooms, sponges, aprons, soapy water and sink should be readily available.

DRESS-UP CENTER

A dress-up center provides a rich opportunity for enhancing language and thinking. The teacher who changes the props in the dress-up center suggests new roles for the children to try on for size. These are real people with whom modern-day children come into contact in their daily lives. For example, a prop box containing hair rollers, comb, brush, bobby pins, wig, mirror and old hair dryer cap inspires dramatic play as a beautician. Other old items can be collected, combined, and set out at different times for playing such roles as mechanic, business executive, astronaut, dentist, nurse, teacher or farmer. Newsletters can invite parents to save cast-off items from which dramatic play can be enlarged. Sometimes setting props in a different part of the classroom suggests new lines of thinking and playing, such as adding them to the block, housekeeping, or music area.

WRITING CENTER

A writing center is essential for the language oriented classroom. The kindergarten child is eager to explore this mode of communication. Children should have ready access to many materials that encourage communication with writing. Ideally the writing center should be adjacent to a blackboard which is reserved for children's use. Equipment should include:

- Primary or regular typewriter
- Small chalkboards and chalk
- Two sets of the following types of letters for children to see, feel, handle, match, and trace: sandpaper letters, felt letters and flannel board, and laminated manuscript letters.
- A printing set
- ABC books
- Picture dictionaries
- Different sizes, colors and textures of paper
- Lined and unlined paper
- A supply of blank books with interesting covers for illustrating and writing stories
- Lists of commonly used words
- Lists of words related to the current unit of study

Children should be encouraged to trace and/or copy letters and words. The teacher should be available to take dictation when the need arises and assist children when they begin to write independently.

PHYSICAL ACTIVITY CENTER

Physical well-being and development is important as a contributor to the child's learning ability. Hence, the teachers must be aware of each child's need for activities which nurture the development of his perceptual and motor skills as well as cognizant of their effect on self-concept, esthetic growth and cognitive abilities.

Opportunities for physical activity should be provided both inside the classroom and on the playground. Indoor apparatus includes such equipment as: balance beams, large packing boxes, crates, and barrels for crawling into, over, around, etc.; construction toys such as Lincoln Logs, Legos, blocks, Tinker Toys; beads for stringing, sewing cards; peg boards and pegs, geoboards, puzzles, balls, small trucks and toys, sand and water, templates, and opportunities for zipping, tying, buttoning, snapping, sawing, nailing, tracing, throwing, jumping and skipping.

Appropriate to this section is discussion of movement education. Frequently described as that part of the program in which the child discovers his own way of moving, exploration in space in high, low and middle levels is an exciting experience for young children which affects,





in a positive manner, their creativity, language, imagination, motor-development, and self-concept. Movement activities are frequently initiated by asking questions or presenting situations which prompt children to respond by moving their bodies in various ways. For example, if asked how they can move their arms from their shoulders, some might swing their arms, some might raise their arms over head, while others might twist their arms. Other movement possibilities include: responding to activity songs, imitating animals, falling leaves, a certain mood, vehicles, weather

elements, moving in different directions (forward, backward, sideward, diagonally, upward, downward, or any combination of these), walking at varied paces, balancing, marching, skipping, running, galloping, shaking, gliding, etc.

ART CENTER

Art is a powerful tool for total development and is a means for helping children to express ideas and feelings which they may or may not be able to verbalize. Art introduces color, texture, design, tools, and techniques that children can use easily if materials are properly presented to them. The major concern of the teacher is that children use the varied media, become accustomed to them, and develop interest in experimenting with various processes. In essence, the end product is of less importance than the process, particularly in the child's early experience with materials. Art encourages inventiveness, imagination, creative thinking and the development of symbolic representation.

If possible, art centers should be located near a sink and include opportunities for brush and finger painting, coloring, cutting and pasting, and the use of clay. Cloth, string, straws, different types of papers, scraps of wood, rocks or other articles may be included in a junk box from which children may choose for use in their creations.



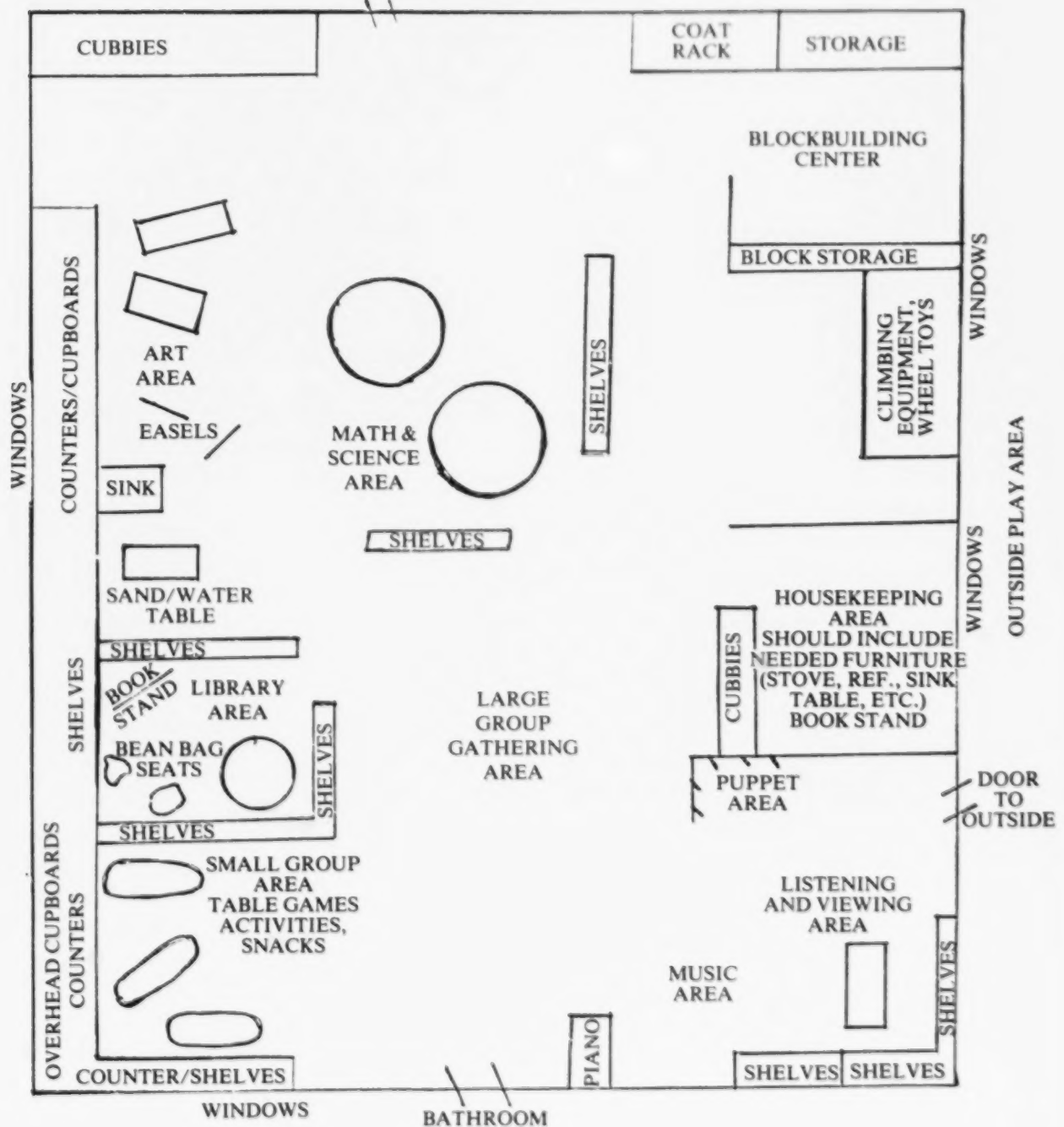
FLOOR PLANS

The arrangement of centers depends primarily upon the physical structure of the classroom. The two floor plans which follow are suggestions for uses of space, areas which you may want to have all year, and some which may be for a short time only.

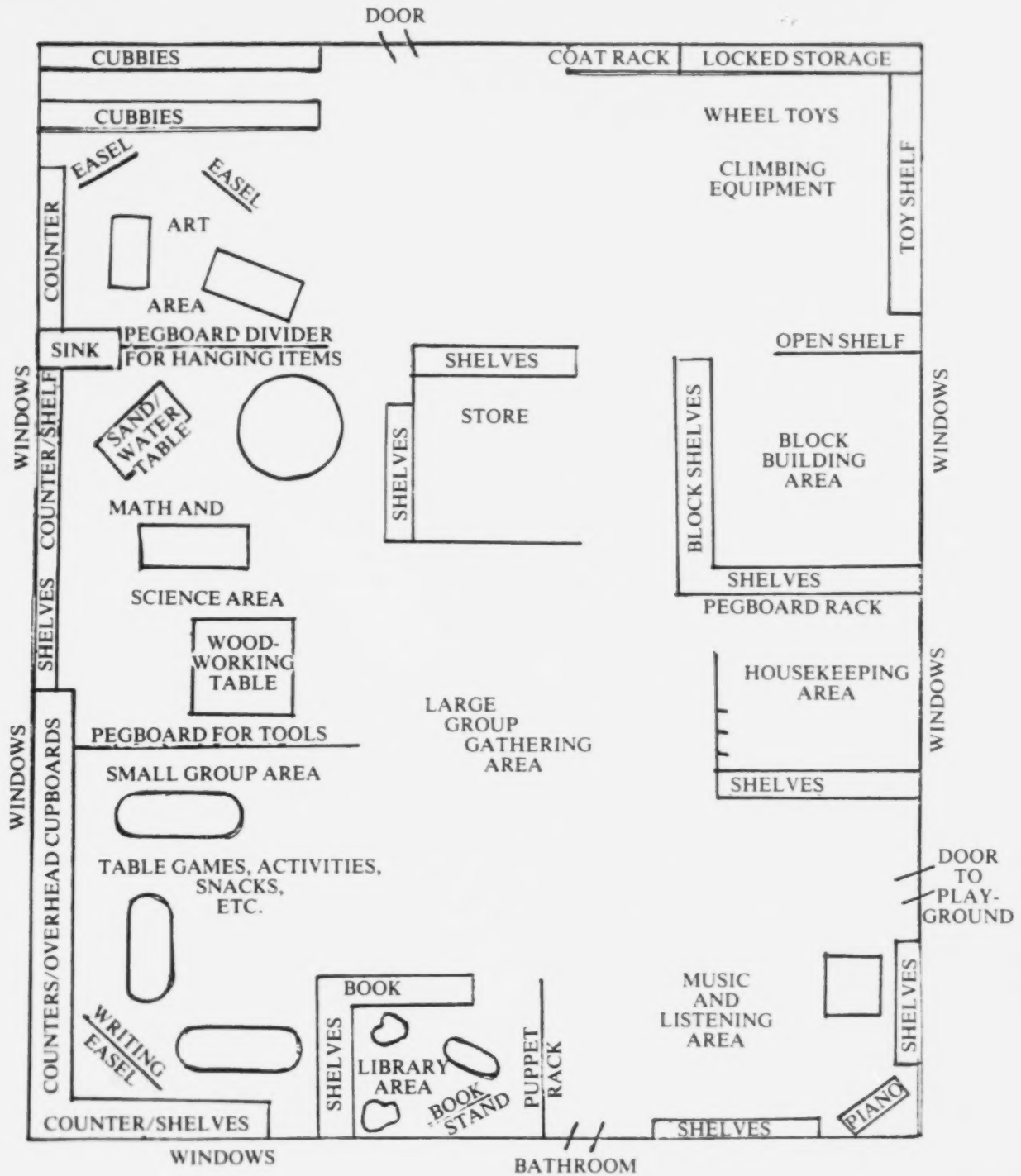
There are several things which should be kept in mind as you arrange your room:

1. Avoid long open spaces down the center of the room; such space invites children to run.
2. Shelves and dividers which project into the room or are used to break up center space should be short enough for an adult to see over. All space in the room should be visible easily to the adults, while providing privacy to the children for their activities. Using open shelves which can be seen through is one way to accomplish this.
3. Activities which may require water should be located near the sink, to avoid carrying water across the room.
4. Some areas (or centers) may come and go, depending on the season, your lesson plans, and the children's interests. New areas may be added or old ones changed to accommodate new activities.
5. Rooms **can** be rearranged during the year: Centers do not have to stay in the same place all the time. The children may have some ideas for rearranging after they have been in use for a while, and can share in redesigning and moving areas to new and different locations.
6. Plan to locate areas together which have common uses or can share in activities - e.g., blockbuilding and wheel toys, music and listening areas, books and puppets.
7. Equipment and materials should be changed or added to reflect changing skills and interests of the children in each area or center.
8. If possible, the floor should be carpeted in areas to reduce noise and encourage use of the floor as well. Some obvious exceptions are the art area and sand or water play areas.

FLOOR PLAN A



FLOOR PLAN B



IMPLEMENTING THE LEARNING CENTER APPROACH

The learning centered classroom is not an unstructured classroom as a number of educators unfamiliar with this approach maintain. The daily routine is highly structured and must be well thought out for effective implementation. We encourage teachers who are considering the use of centers in their classrooms to move slowly, and offer the following suggestions which kindergarten teachers have found useful as they move themselves and children toward working in centers in an organized fashion.

Begin with a small block of time, perhaps fifteen minutes, and provide three learning stations (small centers). An example:

Station 1 - manipulative materials

Station 2 - self-directed cut and paste activities

Station 3 - visual discrimination exercises and games

Give directions for the activities in the three stations and assign one third of the children to each station with the understanding that they must complete one activity at the assigned station before moving on to another. Continue this procedure for several weeks. Change tasks in the stations daily, or if you prefer, develop new stations which focus on other curriculum areas.

As the children grow in their ability to work independently, expand the stations into centers and extend the time to about thirty minutes. Now if the children are ready, permit them to select the order and length of time they need to work or play in the various centers, being careful to set up requirements for behavior and completion of activities. Very shortly you will find that you are able to add additional centers and expand the time period to forty minutes or more.

Occasionally the teacher might find a child or group of children who constantly select the same centers or have difficulty in making choices among centers. The following approaches or adaptations of them may be helpful.

1. Introduce a double laminated oak tag wheel. Draw or paste pictures of the various centers in pie shaped wedges. On the outside wheel, which extends about an inch beyond the inside wheel, place clip-type clothespins, on which are written the children's names, in groups of three. Turn the wheel so that the names of three children appear opposite a different section of the wheel. Each child is then expected to start in this assigned center and complete one activity before he moves to another center.
2. Make a mailbox for each child out of a shoe box and place a task card in it daily. The task card contains a list of the centers you wish the child to use during the day.

While many teachers feel comfortable with the idea that children will select activities within the centers that are appropriate for them, according to their needs assessment, others feel the need to structure choice somewhat. One approach which still allows the child choice but also provides structure is the task card. The following is an illustration:

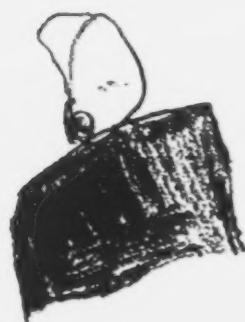
Joey	Oct. 9, 1980
Center 1	Activity 3 or 4
Center 5	Activity 11 or 12
Center 6	Free Choice

As stated earlier, the learning center approach provides the teacher with opportunities to use her time more flexibly. Once the approach is established she can easily incorporate skills groups for additional instruction in math, handwriting or readiness activities. This can be a time to write stories dictated by children, to label drawings, to provide individualized instruction for slow learners or children with special needs. The opportunities are tremendous! Probably the most important of these is that she has the time to observe her children, talk with them and get to know them as individuals.

SCHEDULING THE DAILY PROGRAM

The following schedules elaborate the use of time and the teacher's role. When utilizing these or a preferred schedule, you will find that the routine will flow more smoothly if you:

- Announce to children that there will be a change of activities and give them about a five minute period to bring closure to the activity they are pursuing.
- Allow children to gradually join the new activity.
- Alternate a quiet activity with an active one.



SAMPLE SCHEDULE FOR MORNING AND AFTERNOON SESSIONS*

Activity	Purpose of the Activity	Teacher's Responsibility
Children arrive, put away wraps.	To foster independence and a sense of order.	Help any child having difficulty. Offer praise and encouragement.
Teacher greets children individually, listening to any special news.	To provide opportunity for social language and interpersonal relationships between children and the teacher.	Serve as a listener. Ask pertinent questions. Provide an atmosphere of acceptance, respecting contributions of each child. Encourage good oral language and listening skills by serving as a model.
Children gather sitting on the floor or on a rug in an area designated for total group activity.	To learn group behavior.	Provide guidance, suggesting rules for group conduct.
Informal conversation, sharing of important happenings or events, stories and songs. Informal planning of the day's activities.	To provide an opportunity for sharing, for speaking before the group, for listening and asking questions.	(See responsibilities listed above.) Record the planned activities of individuals and small groups of children during activity period. This will result in the gradual development of daily and long-term plans.
Unit/conceptual language whole group activity (approximately 20 minutes).	See learning goals and objectives for specific unit activities being used.	(See Using the Language Experience Approach section of this guide.)

Choice of activity time

Children select and use learning centers.	To afford opportunity for concept development through physical manipulation of materials and situations through verbal expression of ideas and relationships, in a variety of self-selected activities.	Circulate among children moving from individual to individual, group to group ⁴⁵ showing interest, discussing, listening, questioning and observing; sensing needs and helping children to reach their goals. Introduce new activities to small groups.
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*Adapted from: O'Donnell, Michael; Oliver, Shirley; Raymond, Dorothy, *That Wonderful Year*, Augusta, Maine: Maine State Department of Education and Cultural Services, May, 1970.

Activity

The following are examples of typical learning centers:

1. Art
(coloring, painting, pasting, collages, mobiles)
2. Listening center
3. Block Building
4. Carpentry
5. Cooking
6. Doll house
7. Housekeeping
8. Large motor activity
9. Library center
10. Music
11. Outdoor play area
12. Pets and plants
13. Science and Math
14. Store
15. Table toys and games
16. Water play
17. Centers which relate to unit being studied
18. Writing center

Pick up time.

Purpose of the Activity

To encourage order and responsibility.

Teacher's Responsibility

Reinforce procedures for using specific material as art and audio visual equipment. Read stories to individuals and small groups. Record individual experience stories.

Take dictation, label art work, constructions. Hold skills group sessions and/or individual instruction.

Move from group to group encouraging efficiency and cooperation. Remind children to get ready and to assume responsibilities connected with snack time.

	Activity	Purpose of the Activity	Teacher's Responsibility
	Bathroom routine* associated with snack time. Snack time.	To establish good health practices a - cleanliness b - nutrition To provide opportunities for developing social skills including language and conversational ability.	Check to be sure that all children wash hands. Provide nutritious food consisting of juice and crackers, milk and cookies, or finger foods such as carrots, raisins, other fruits and vegetables or food children have prepared especially for snack time. Sit and relax with the children, encouraging conversation as in a natural social situation.
42	Music and rhythms	To aid children in learning to take responsibility for preparing food and serving a large group. To widen appreciation and enjoyment of music. To stimulate creative expression.	Model cleanup yourself. Supervise arranging and clearing the tables; counting cups and division of food; help children to work out these problems. Provide musical experiences for children; instruments for rhythm band, opportunity for creative movement to music, including songs appropriate to their age level.
	Story time	To provide opportunities for appreciation and enjoyment of literature and to encourage desire to read. To gain new understandings and to stimulate self expression.	Develop skill in reading and story telling, varying presentation techniques.
48	Group discussion, summary or evaluation of the day.	To summarize the day's activities helping each child to feel a sense of accomplishment.	Help pupils identify and relate pertinent activities. Help children organize their thinking.

*While it is wise to schedule a specific time for bathroom use, this facility should be available to children when needed.

Activity	Purpose of the Activity	Teacher's Responsibility
Preparation for dismissal	To help children to anticipate their needs and to organize their behavior: a. clothing b. items they wish to take home c. things requested by parents d. things brought to school	Help children to remember by giving cues and hints. Assist pupils in locating belongings.
Dismissal	To give children a sense of satisfying achievement in their school day. To encourage them to be enthusiastic about returning to school. To develop warm relationships with the teacher.	Be warm and friendly in final contacts with children, bidding them goodbye. Mention some activity for each child to look forward to.

EXAMPLES OF OTHER SCHEDULES WHICH MAY BE PREFERRED*

1. Arrival
2. Opening and circle activities - informal discussion, conversation, explanation of tasks at stations or centers, planning
3. Choice of activity or work time/small group and individual skills work
4. Pick up and snacks
5. Math
6. Outdoor play
7. Whole group activities: music, story, dramatization of story, group games
8. Dismissal

or, if children have had a long bus ride to school:

1. Arrival
2. Bathroom routine
3. Snack
4. Music
5. Informal discussion, planning time
6. Choice of activity or work time
7. Pick up time
8. Story
9. Evaluation or summary of day
10. Dismissal

or, when planning a special activity, such as a field trip:

1. Arrival
2. Informal gathering for planning and discussion of field trip; list what children should look for, list questions children wish answered. Discuss routine of field trip, always keeping basic routine the same; it may be that each child will have a partner. Arrange children in small groups, each with a specified adult. If it is a walking trip, groups stay together; if bus trip, groups sit together in same section and gather as they get off the bus.
3. Field trip
4. Snack
5. Discussion of field trip
6. Dismissal

Schedule following a special event might be:

1. Arrival
2. Informal discussion of field trip - were questions answered? Film to review field trip or an experience story about field trip. Art work related to field trip. Pertinent field trip follow-up activities.
3. Planning time
4. Choice of activity or work time
5. Pick up time
6. Snack
7. Story
8. Outdoor activity
9. Group discussion and evaluation of day's accomplishments
10. Dismissal

*Unit/conceptual language activities can precede or follow choice of activity time.

OBSERVATION AND RECORD KEEPING*

Precise record keeping is essential in an era in which accountability is being stressed! When carefully undertaken, good records clearly indicate what each student has selected to do, the progress made, and what has been accomplished. They provide invaluable information when planning future classroom and individual activities, requesting a Pupil Evaluation Team (P.E.T.) meeting, and when writing an Individualized Education Program (I.E.P.) for a special needs child. Additionally, they provide precise sources of data which can be effectively used in reporting individual progress to parents.

After the teacher has clarified her personal philosophy, teaching style, goals and expectations, and classroom organization, she should focus on selecting record keeping devices which complement her approach, or plan to develop her own record keeping system. There are many books available which contain excellent record keeping suggestions. (See Appendix Eight). However, we have included a few suggestions for your consideration.

Anecdotal Records

Records can be kept for a child as a particular event occurs, or for a predetermined day of the week or month. The day on which observation takes place and what is recorded depends upon the teacher's objective or purpose and the setting. To be useful, anecdotal records must indicate the child's name, date, time, setting, what the child is doing, and how well. Observing a particular behavior, attitude or skill once or twice is not enough. These observations must occur frequently in order to draw significant conclusions.

An efficient means of recording information is important, otherwise the task becomes too difficult. Examples of approaches which many teachers have found effective include:

1. Leaving small pads of paper and pencils around the room for jotting quick observations. At the end of the day, the information gathered is copied into a large notebook in which each child has a page or more. The date of the observation is always noted.

Jane Doe 6 years
Sept. 16, ...
.....
Sept. 20, ...
.....

2. Jotting information on 3 × 5 cards which teachers carry in the pocket of their jacket, apron, or smock. At the end of the day each card is placed into an alphabetical card file with a section allocated to each child. In Language Experience classrooms, a separate card is frequently kept to record words which the child has placed in his word bank.

3. Attaching large address labels to a clip board to record information. At the end of the day, the teacher merely transfers the label to a large notebook as described for number one. This approach saves much rewriting time.

4. Keeping a weekly diary by the teacher to note unexpected happenings, to describe activities, to note stories dictated, and to record teacher and child development.

*Adapted from: Miccinati, Jeannette, and Pine, Mary, *Observing Student's Reading Skills*. York, Pennsylvania: Strine Publishing Company, 1979



Checklists

Checklists are a way of recording specific behavior, skills, and even some attitudes. Often a checklist is used to determine whether a specific skill has been mastered, needs reviewing, or has not been acquired at all. They can also be used to note the degree or extent to which a behavior exists.

This method of recording what is seen and heard is particularly useful for assessing a student's progress and growth. If used for this purpose, checklists provide a sound basis for establishing skill groups in the classroom, for prescribing personalized learning experiences, and for making changes in teaching strategies.

A checklist can be used to assess whether a child exhibits behaviors that are characteristic of children who require specialized programs such as: gifted and creative, motor development, and language development. Checklists are also a valuable aid in the classroom to determine whether a child needs in-depth evaluation by various educational specialists.

One of the advantages of using a checklist is that a great deal of behavioral information can be recorded very rapidly. The efficiency of using a checklist can be facilitated by arranging the statements on the checklists in certain ways. For example, the listing of behaviors can be arranged in sequential or alphabetical order to increase efficiency in making observations. On the other hand, a commonly accepted approach for developing a checklist for recording skills accomplishment is simply to take the list of skills which consist of the instructional goals for the unit or area of the curriculum and provide spaces to record whether the child has mastered the skill, is working on the skill, or needs instruction on the skill, and the date on which these observations were made.

Samples of Work

Gathering and keeping samples of children's work graphically illustrates progress which has been made. From time to time, children's drawings and written works may be collected, dated, and put into folders. For three dimensional structures - blocks, clay work, sculpture or carpentry, polaroid pictures can be taken and filed. This helps the child in evaluating his own work and is extremely valuable in parent conferences.

THE PLAYGROUND



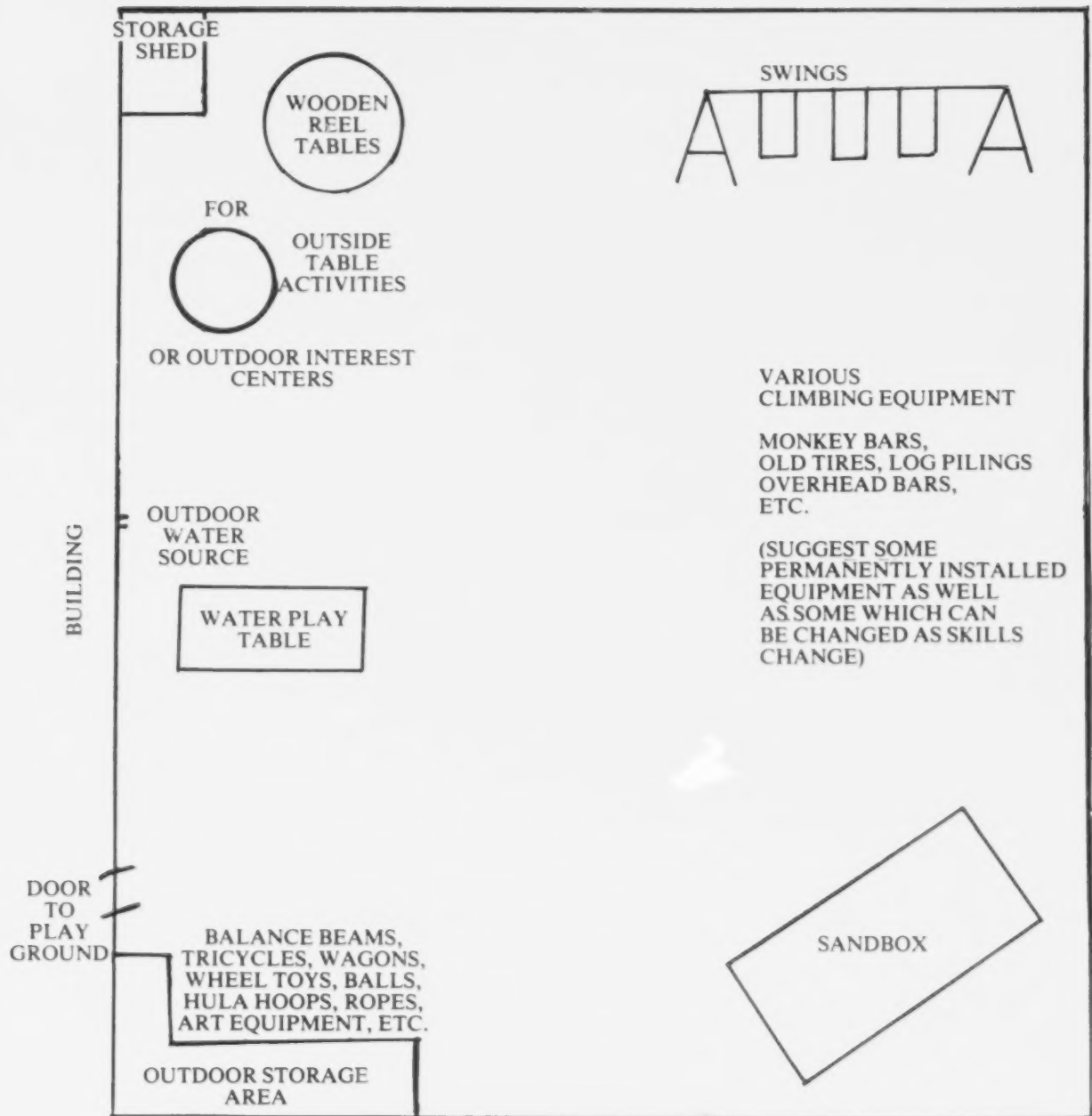
The playground area should ideally be for kindergarten children only, with equipment scaled to their size. The playground plan which follows is designed with this in mind. Realistically, we know this is not always possible. If the playground is shared with older children, there should be a separate area which contains appropriate play apparatus and is designated for young children. If possible, the kindergarten classroom should also have its own exit from the room to the playground area.

It is not the intent of this guide to discuss playgrounds in detail. Teachers who are interested in exploring this topic further, are referred to the abundant literature which has been published on playgrounds. Specifically, we suggest:

Frost, Joe and Klein, Barry, *Children's Play and Playgrounds*. Boston, Mass.: Allyn and Bacon, 1979.

This current publication elaborates theories of play, learnings gathered through play, and offers excellent suggestions for building, equipping, and maintaining playgrounds.

PLAYGROUND





FOUR
CULUM

57

49

THE CURRICULUM

While the units in this portion of the guide contain activities which integrate all subject areas (Math, Science, Expressive and Receptive Language, Social Studies, Art, Reading Readiness, Writing and Music), their focal point is the development of language and thinking skills. Providing opportunities for growth and development in these areas is critical as they are the foundation on which all other learnings are based. Major emphasis is also placed on the Language Experience Approach to readiness and beginning reading as this approach best reflects a total integration of the language and thinking skills.

LANGUAGE AND CONCEPT DEVELOPMENT

Language Development and Reading

During the past decade much has been written about the nature of reading. The most pervasive and undoubtedly most persuasive theme has been that of reading as a psycholinguistic process (Goodman, 1967; Smith, 1975; Pearson, 1976). To briefly explain, the psycholinguistic theory of reading holds that the reading process is first and foremost language-based. Approaches which are used in teaching beginning reading must 1) emphasize language and thinking skills, 2) provide opportunities for children to broaden their experiences, and 3) assist children in understanding that reading is a part of the total communication process (reading, writing, speaking, language).

Reading is concerned with processing written words in context, not with the mere identification of unknown words. There is more to reading readiness than the development of such skills as auditory discrimination, visual discrimination, directionality, etc. While these skills are important and should be learned, opportunities for experiences in oral language and concept development are of prime importance. Research has clearly indicated that children with good oral language ability become more competent readers (Clay, 1968; Loben, 1963; Roddell, 1965; Strickland, 1962; Tatham, 1970).

Linguistics has established the primacy of oral language. Historically, oral language developed first. Children learn language by being surrounded with it. Their first language experiences involve listening and speaking. It is through oral language that they acquire an intuitive working knowledge of their native language. Later experiences in reading and writing are extensions of that oral language. Words in print provide a visual representation of spoken language.



Children bring all of their language experiences to the reading task. Unless those experiences provide an adequate language background for the material they are expected to decode and understand, progress in reading will be slow. What children gain from the reading encounter is directly related to the language competency they already possess. Reporting on a thirteen-year study of children's language development, Loban says:

It is of special note that those superior in oral language in kindergarten and grade one **before they learn to read and write** are the ones who excel in reading and writing by the time they are in grade six. Our data show a positive relationship of success among the language arts. (1976, p. 71)

The writers of this guide support this psycholinguistic theory and agree that because children read language, the ability to use language both receptively and expressively is an important background skill for reading. Oral language is the base on which the introduction to reading is built. A child's conceptual knowledge and experiences determine the meaning he brings to a reading situation and the meaning he abstracts from that reading. Language and concepts develop through experience and opportunities to engage in discussion of those experiences with others. Even though the prereader has an impressive ability to use oral language before he starts to read, attention to furthering language facility should be given high priority in prereading as well as at higher levels. A total communication view of reading will provide experiences in listening, speaking, writing and reading.

A teacher can provide opportunities for children to hear and use language in both formal and informal contexts, to expand vocabulary, and to develop competence in using the linguistic system. Reading readiness programs should include such activities as:

1. Reading stories and poems to increase vocabulary and develop an awareness of language structure.
2. Composing group experience charts and individual experience stories thus encouraging children to express their ideas in oral language.
3. Discussing class activities such as field trips, cooking and sand play, thus providing functional opportunities for speaking and listening.
4. Encouraging socio-dramatic play situations to develop effective communication with oral language and enhance thinking ability.
5. Asking children to talk about their art work and block building and to respond to teacher questions which require them to do more than just name the objects represented.
6. Providing listening stations which allow children to listen independently to tapes of stories.
7. Planning conversation time which encourages informal talking and also provides the teacher with an opportunity to observe the spontaneous language production of the children.
8. Planning activities which encourage the children to observe through all their senses, thus encouraging children to note specific attributes of objects.
9. Classifying pictures and objects according to categories such as food, furniture, clothing and people, thus expanding their concept development.

Teachers should not conclude, after studying the above list, that only a few activities provide adequate experience in the language component of the prereading program. Language development needs to be fostered throughout the total kindergarten program. Indeed in all readiness activities, the knowledgeable teacher will provide opportunities to develop concepts, experimental background, and language. In working with oral language the teacher should be constantly concerned with expanding listening and speaking vocabularies,

with promoting and improving the child's ability to express himself orally, and with increasing his listening comprehension. Therefore, it is obvious that numerous opportunities for speaking and listening in functional settings must be provided in the prereading period. Utilization of the language experience approach has particular value in this respect.



CONCEPT FORMATION AND READING

Language and thinking are interrelated, mutually dependent skills. Since reading is a language and thinking process, it follows that the development of thinking skills is just as essential a prerequisite and corequisite to reading as are oral language skills. Reading is an intellectual process which requires the reader to interact with print. In order to decode and derive meaning from print, readers are continually involved in such mental activities as recalling and associating; translating and interpreting; analyzing, synthesizing and generalizing; and evaluating. Reading is an active mental process in which readers must think ahead and think back in their quest for meaning.

While many of the thinking skills listed above are beyond the capacity of the kindergarten child, the foundation for these higher levels of thinking can be nurtured by planning activities which enhance concept formation.

A concept is an abstraction, a category of objects, events, or ideas which are related because they share common features or attributes. For example, the concept of dog includes such different examples as: big dog; small dog; brown dog; white dog; collie; spaniel; terrier and so on. These are all dogs and fall into that category or concept because they share certain canine characteristics. On the other hand, the concept animal is a broader one which includes

dog, as well as: lion, tiger, cat, crocodile, bird, reptile, and others because of their shared characteristics or attributes with the other objects in this class or category.

Concept formation and vocabulary development are related. As we interact with the environment, forming and reforming symbols and concepts gained from our experiences, we give these concepts language form or labels. As Kean and Personke (1976) indicate, language allows us to devise convenient labels for our concepts so that we may use only a word or phrase to refer to a concept, relate it to other concepts, and manipulate it in such activities as problem solving.

The procedures suggested for helping children form concepts vary. However, most authorities concur that concept formation in its simplest form includes:

1. Recognizing general differences and similarities (perceptual).
2. Acquiring a number of attributes or labels (contextual).
3. Placing events, ideas, or objects in categories thus extracting essential characteristics as they occur in a variety of contexts (concept attainment).
4. Placing concepts in classes (classification).*

The development of concepts can be illustrated by examining the events which might occur in aiding the young child to form the concept, footwear.

Activities

1. Display in random order all types and sizes of footwear, for example:
Boots: hiking, workmen's, combat, ski
Slippers: adult's and children's, fluffy, backless, toeless, shower
Shoes: tie shoes, loafers, sneakers, baby booties, moccasins, Indian beaded, mukluks, snow shoes, football, sandals, ballet, tap, button shoes, shoes with zippers, etc.
2. Examine components of the display to discover general differences and similarities, e.g., all have soles, all go on the feet, but they are not all alike. The following questions might be asked to encourage children to discuss the types of footwear:
 - Who would wear them?
 - What would they be doing?
 - When would they be worn? Time of day, season...
 - Where would they be worn? Inside, outside...
 - Could one type be worn by several different people?
 - Which would you wear? When? Why?
 - What are they made of?
 - How many ways can they be classified?

Through probing questions such as these, children will discover among other things that there are several types of footwear. These objects all belong to a major class, but can also be arranged in subordinate classes. That is, a group of these are shoes, but they also belong to the major class of footwear.

These questioning activities can be supplemented by having the children role play the person who wears a specific type of shoe (e.g., ballerina), reading poems and stories which relate to footwear, labeling each type of footwear, dictating stories and recording these in their individual books.

*O'Donnell, Michael, *Teaching Stages of Reading Progress*. Dubuque, Iowa: Kendall/Hunt Publishing Company, 1979.

LINGUISTIC CONCEPTS AND READING

With all the language competence children possess when they enter school, it is interesting to note that children's views of reading reveal very confused ideas. For example, young children frequently do not understand the meanings of such terms as "letter," "word," "phrase," "sentence," and "sound." To develop an understanding of these linguistic concepts children need opportunities to discover and categorize from their experience with and exposure to meaningful written language. As students match letters, words, phrases and sentences with language experience materials, linguistic concepts can be demonstrated in natural and functional reading situations. The teacher may say, "This word is baby. Who can find this word on the chart? The letter is 'M.' Who can find the letter 'M' on the chart?" Many opportunities to follow directions, such as, "Read Sally's sentence on the chart," are another natural, conversational way to foster development of linguistic concepts. The learning of these concepts should be started in the prereading period and continued as children move into beginning reading.

SYMBOLIC REPRESENTATION AND READING



Symbolic representation refers to the ability of the child to recognize that oral and written words represent actual objects, persons, places or things. Many researchers agree that the development of symbolic representation is essential if children are to read with full comprehension and that this ability must be nurtured in the kindergarten.

For most five year olds the transition from concrete to symbolic thinking is in process. By engaging in art, clay work, block construction, carpentry, socio-dramatic play and other means of representation, the child comes to realize that things can represent things and that

words both oral and written can represent things. For example, the child who has painted a picture of a tree grows in this ability to understand that the tree which he has painted represents a real tree. The wise teacher labels all representations with oral and written symbols, thus furthering the child's ability to realize that the creation is a representation, but so, too, is the oral and written word.

Field trips are another valuable aid which provide many opportunities for developing symbolic representation. For example, when on a field trip to the beach the children have many concrete experiences. They see, touch, taste, feel and smell a variety of elements, thus expanding their understanding of the beach. When back in the classroom representational activities might be in the form of small group discussion, art work, movement activities, and language experience stories. Thus children realize that words — oral and written — are symbols which represent what I saw, learned, and did at the beach.

READING TO CHILDREN

The value of reading aloud to children can not be overstated. Because of its merits, it should not be limited to the typical once a day story. Whenever possible it should be incorporated into the curriculum in the form of literature, poetry, and charts. There is no better way for children to develop the understanding that reading conveys a message. Through listening, children's language structures and receptive vocabularies are expanded. These three factors are basic to learning to read. In addition children develop interests in books, grow to love literature and poetry, and emerge into fuller human beings because of the joy, delights, and beauty found in books.

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LANGUAGE AND READING READINESS SKILLS

The following is a list of language and reading readiness skills which are frequently developed in kindergarten. The reader should not assume that all children can or should accomplish all of these. On the other hand, some children will be ready for more advanced skills not included on this list. Individual needs and abilities are essential considerations when developing programs, instructional materials, and activities. We urge that this list be used only as a guide and that it be modified to permit "Tailoring" instruction to match the individual child.

Listening

- Enjoys listening to stories and poems.
- Is able to respond to simple directions.
- Is able to recall simple sequence events from a story or experience related by some one else.
- Is able to listen to others.
- Enjoys the sounds of language.

Auditory Discrimination and Auditory Memory

- Is able to distinguish likenesses and differences in non-verbal sounds around him.
- Is able to hear likenesses and differences in beginning, middle, and ending sounds.
- Is able to supply a word that begins or ends with the same sound as a given word.

Visual Discrimination and Visual Memory

- Is able to see likenesses and differences in letters and words.
- Is able to match letters and words.
- Is able to locate letters and words when the cue card is removed (visual memory).
- Is able to locate words of the same configuration when no cue is provided.

Letter Knowledge

- Understands that letters represent sounds in our language.
- Understands the difference between upper and lower case letters.
- Is able to match upper and lower case letters.
- Is able to recognize and name upper and lower case letters.

Integration of Auditory and Visual Discrimination and Letter Knowledge

- Is able to demonstrate an understanding of the sound-symbol relationship.
 - Can associate the letter form with the sound it represents in words.
 - Can associate the sound of an initial phoneme when used in the context of a word with its written symbol.



Oral Language

- Uses a wide variety of words in speaking.
- Is able to recall and use new words related to new experiences.
- Uses complete sentences and organizes thoughts.
- Is able to express self with others.
- Is able to recall and relate stories and experiences to others.
- Uses language in conversation with others.
- Is able to supply endings to simple stories.
- Applies vocabulary acquired through concept development.

Social/Emotional Development

- Uses language to satisfy needs instead of aggressive, physical behavior.
- Appreciates that he and others have important things to say.
- Understands that his own words, thoughts and ideas, feelings, and experiences can be written down and shared.

Cognitive/Concept Development

- Understands terms "like" and "different."
- Understands left and right.
- Understands directionality: left to right and top to bottom progression in printed material.
- Understands relational terms in the areas of:
 - time
 - space
 - order
 - comparatives
- Is able to classify objects by two or more attributes.
- Understands and uses color words.
- Is able to apply appropriate sensory perception skills (touch, taste, smell, sight, sound) to explore and learn concepts.

Literacy Concepts

- Understands that words consist of letters.
- Understands that letters represent oral sounds.
- Understands that books communicate.
- Understands that spaces separate words.
- Understands that words make sentences.
- Understands that written words represent language.





THE LANGUAGE EXPERIENCE APPROACH

The primary goal of the Language Experience Approach is to develop each child's ability to communicate through reading and through language. This approach utilizes reading material which is created by writing the thoughts that children have expressed orally. According to Hall (1976, p. 1):

The essence of the language experience approach is the use of the language and thinking of the learner as a foundation for reading instruction. Each learner's language and personal experiences are used to create reading materials which help show the reader the relationship between written language and his already familiar oral language.

In this approach reading is integrated with listening, speaking, and writing. Materials are created by children in their own language patterns and are about their experiences.

Like any other method of reading instruction, the goals of this approach are to:

- Build reading readiness skills
- Establish a sight vocabulary
- Develop effective strategies for decoding words
- Enhance comprehension skills
- Promote a favorable attitude and permanent interest in reading

It has tremendous value at the readiness and early reading stages of development. It presents unlimited opportunities for the teacher to utilize the child's language abilities and to individualize instruction, thus meeting the varied needs and abilities which children bring to the kindergarten classroom. When appropriately used it serves as an effective vehicle for developing the language and reading readiness skills presented on pages of this guide.

Basic to this approach is a language oriented classroom in which children have opportunities to:

- Talk and interact with their peers and teacher.
- Listen to the ideas, conversation, and discussions of others as well as an abundance of well selected literature and poetry.
- Engage in representational activities such as art, clay, puppetry, block building, sociodramatic play.
- Broaden their experiences through such activities as field trips and listening to resource persons.

These and related experiences provide the foundation for and are vital ongoing components of **The Language Experience Approach**.

Language Experience-Readiness Level

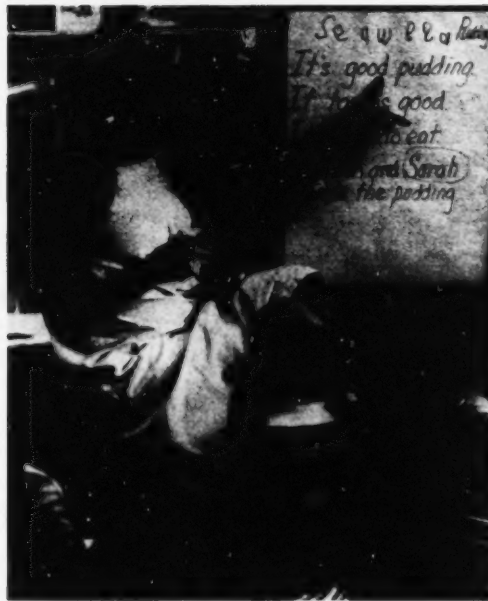
Labeling

A valuable method for beginning the language experience approach is to enlist the children's help in the act of labeling objects and areas in the classroom. This lays the ground work for seeing the relationship between language and print. The child says the word sink, observes the teacher as she writes the word sink, and begins to realize that this written word is the same as the word he spoke. Children's art work, block play and other creations should also be labeled on a regular basis. At first the child will contribute only a single word or phrase. Gradually his labels become sentences and finally they evolve into dictated stories.

Dictated Stories

The development of experience stories with individual children or a group of children can be a very enjoyable sharing experience which enhances language skills through listening, talking, and observing the teacher as she records oral language.

In taking dictation, the teacher should create a feeling of relaxation by sitting down and talking with an individual child or group of children. Once a child/children is relaxed and feels free to express himself, the teacher encourages him to join in individual, group, or classroom conversation according to his needs, interests, and abilities. Upon the completion of the "discussion period," the teacher invites the child/children to dictate an experience story. The child/children should be seated so that they can see each word as the teacher records it using both upper and lower case letters. If a group of children is writing an experience story, each sentence is agreed upon before it is written; conflicts are resolved through discussion and/or suggestions from the facilitator. Words are recorded **exactly** as dictated by the child/children. The teacher says each word as she records it on the paper. Upon the completion of each sentence, the teacher invites the student/students to read it with her indicating left to right direction with the movement of her hand. When the story is completed, the teacher and pupil/pupils read the entire story together and decide on an appropriate title which the teacher writes on the chart. She rereads the story drawing her hand from left to right under each line of print and then invites the child/children to read the story with her. In the group setting, when she hears a child or two "pull away" from the others or read faster because of advanced ability, she asks them to read selected words or sentences with which they consider themselves familiar. Naturally when this is done on an individual basis, the teacher will know immediately which words the child recognizes. At the end of the lesson the child/children are given the option of signing their names to the story and/or illustrating the experience story. Generally on the second day, after the story has been copied onto chart paper and the teacher has had time to prepare related teaching aids, reading readiness activities are developed using the content of the language experience story.



The following is an illustration of how one teacher used the story below.

THE SPINY STARFISH

A starfish has a mouth in the middle of its body.
 His stomach can come out from his mouth.
 The starfish has five arms.
 The starfish is not a fish.
 It is an animal with spiny skin.

"Jason, can you match this letter card, 's,' to the same letter in the story and tell me its name?" Jason could not identify the letter by name, however he could visually discriminate the difference between letters of grossly dissimilar configuration and was able to accomplish this matching task.

Next the teacher asked Julie, a child who was able to match letters, to underline all of the letters that look like this, as she held up a flash card containing the letter "d" and said its name. Julie proceeded to underline the letter "d" three times in the story. Individual children and later the whole group were then asked to name the letter which Julie found.

The teacher then held up a word card on which "starfish" was printed. After giving the children ample time to look at the word, she removed it from their sight and asked: *"Tony, can you find the word I just showed you in the story and underline it with your blue crayon?"*

Tony performed this task successfully and proceeded to count how many times he found the word and pronounced it. Then the teacher moved on to another advanced student and asked: *"Melissa, how many times do you see the word 't-h-e'? Can you tell me what that word is?"*

Melissa proudly responded *"the"* and *"I can see it one-two-three times. It's in the story three times!"*

After confirming Melissa's observation she asked the following questions: *"Can anyone find a word in this story that begins with the same sound as 'mommy'? Can you tell me the first letter of that word?"* *"Brenda, can you find a word that ends with the sound that you hear at the end of the word, 'cars'?"* *"Do these words rhyme - mouth and arms: fish and*

dish: body and spiny; mouth and middle?" "Who can find a word in the story that rhymes with wish, hive, tiny?"

The teacher then asked the children to close their eyes and listen as she read the second sentence of the story and to count the number of words that they heard her say. The children agreed that they heard eight words. Next she asked the children to look at the second sentence on the chart and count each word that was written. They agreed that they heard eight words and saw eight written words. One child commented that he also saw that there was a space between each written word.

To promote further discussion and comprehension the teacher proceeded to ask:

"What kind of animal is the starfish?"

"What can come out of its mouth?"

"How is your body different from the starfish's body?"

Lastly she gave each child a ditto copy of the language episode. Another opportunity was provided for the children to illustrate the story. Children were also given the option to take this copy home so that they could read it or parts of it to their parents or to keep it at school as part of their collection of personal stories.

The next day the children who were **beginning** to read were asked to read the story silently and to underline all the words they knew. Following this experience, the teacher met with individuals, heard them read single words, parts of the story, or all of the story depending upon their ability, and carefully printed known words on cards to be placed in their individual word banks. She was careful to number the language experience story and place the same number on the back of each word card. These sight words were also recorded in the student's vocabulary notebook.

A review of this scenario clearly indicates that when language experience is used there is no need for ability grouping. All can engage in the same activity but instruction is adapted within this setting to meet individual needs. Some children work on readiness skills while others read.

Before detailing specific suggestions for readiness activities, a few words should be presented on word banks and vocabulary notebooks. To facilitate the use of the notebooks, we suggest that one page be available for each letter of the alphabet and that the upper and lower case forms of that letter be printed at the top of the page. Generally it is more effective if words are randomly placed into the word banks using no specific order, as this provides for varied uses of the bank. Eventually, the child will see the need for and value of alphabetical order. Numbering each card to correspond with the episode from which it was taken is critical. Should the child be unable to recall a word in his bank in the future, he can then refer to the appropriate story and use the context as a meaningful aid to recognition. The word bank becomes the basic source of material for developing sight vocabulary and for providing instruction in phonics and structural analysis. These more **advanced** children may also use their word banks to:

- Classify words, for example, by color, action, descriptive words, people words, animal words, etc.
- Find the words they like most or least and tell why.
- Find a word that has more than one meaning.
- Match their word bank cards with words in preprimers or literature.
- Make sentences with the words in their bank.
- Pantomime a favorite word.
- Find words that rhyme, begin with a specific initial phoneme, blend, or digraph.
- Use their words in writing new experience stories, label art work, etc.
- Arrange their words in alphabetical order.

LANGUAGE EXPERIENCE AND WRITING



Children who are surrounded by language and opportunities to represent themselves symbolically are eager to write. They want to use this more mature form of communication in sharing their ideas and thoughts with others. The wise teacher will capitalize on this desire and encourage the children to write. For this reason, a writing center as described on page 33 in this manual should be a part of every kindergarten classroom.

We suggest three approaches for teaching writing:

1. Integrate it with readiness activities of auditory and visual discrimination and letter knowledge. When discussing letters, show how they are made. Elaborate upon their distinctive features. These techniques will prompt the child to use the senses of seeing, hearing, and feeling, and to focus his attention on the shape of the letters he is studying. Many teachers provide a handwriting lesson which teaches children how to write the letter they are learning to discriminate visually and auditorily.
2. A less formal but most valuable approach is to give the child a well-printed copy of a caption he has dictated to accompany a drawing. Encourage him to trace it. In a few days or weeks, help him to underwrite, that is, to write on his own, directly under your writing. Gradually the child will move to writing on his own using his vocabulary notebook, personal word lists, word lists in the writing center, and his word bank to help with spelling.

3. There is a growing body of evidence which indicates that children should be allowed and encouraged to write before reading. Researchers have found that children progress through specific stages in spelling. While very much unlike standard spelling, the child grows on his own to develop correct spelling. Commonly referred to as invented spelling, "errors" are not corrected, as they are appropriate for this stage of development and to be expected. Many three-year-olds are writing in this manner. Their writings are readable to them and to adults who are aware of their appropriate spelling "errors." Kindergarten teachers who use this approach emphasize the value of writing. They leave pads of paper all around the classroom and encourage children to write about their activities, to label their block play, and drawings, and to write letters or notes to their parents, teachers, and classmates. Two contributors to this guide have tried this approach with their children with positive and exciting results. A bibliography of related readings is included at the end of this section for your study and consideration.



IDEAS AND SUGGESTIONS FOR LANGUAGE EXPERIENCE

While the units presented in this guide offer unlimited opportunities for dictation, certainly many others will come to mind and should be capitalized upon. Further suggestions include:

Labeling

1. Structures built, art work, collages, woodworking

2. Old and new materials in the classroom and centers
3. Parts of murals
4. Captions for posters
5. Polaroid shots of children
6. Cubbies, smocks for painting, personal possessions, books, pencils, overshoes, rubbers
7. Learning centers
8. Spots and areas in which materials are stored
9. Pictures on bulletin boards
10. Weather, calendar, day, month
11. Shapes, colors
12. Job charts
13. Pictures cut from magazines, catalogues
14. Objects in individual alphabet books, color books
15. New objects that children have explored and manipulated
16. Art or other creations which relate to units being studied

Dictation of Stories

Topics

1. Personal interests
2. Seasons
3. Holidays
4. Special events
5. Neighborhood activities
6. Family activities
7. Community events
8. Current events
9. Weather
10. Pets
11. Trips

Activities and Ideas Which Stimulate Writing and Dictation

1. Reacting to literature and poetry
2. Creating own poems, songs, jokes, riddles, charts
3. Recording steps in a recipe
4. Planning the day's activities
5. Summarizing the day's activities
6. Making cards, letters, or thank you notes
7. Preparing for and following up field trips:
 - How we act
 - How we will get there
 - Permission to go
 - What we hope to see
 - What we saw
 - Thank you notes
 - What we learned
 - What we will do as a result of our trip
8. Making charts or words: color, animal, weather, etc.
9. Illustrating individual books - class books, alphabet books, shape books, color books

10. Making up new endings to stories read
11. Creating stories about socio-dramatic play events
12. Planning for a group project, e.g., mural, a play
13. Composing stories for wordless books
14. Creating stories about pictures, people, events
15. Relating directions for carrying out a classroom activity, e.g., how to fix the terrarium: what is needed, who will bring the materials, how to care for plants; how to make applesauce
16. Composing diaries and logs about special projects
17. Sending notices of special classroom events to children in other classrooms, e.g., programs to be given, visitors we will have, films we will see, inviting them to come
18. Recording science experiments
19. Taking Polaroid shots of people, events, objects, trips; place in individual or class books, label, and dictate stories
20. Dictating a script for a play
21. Showing filmstrips, have children dictate script
22. Drawing pictures of favorite words, label, and dictate why they are favorites
23. Providing homemade books with title or picture on cover; dictate an appropriate story and illustrate it
24. Making charts on why we classified objects or seriated objects in a certain way
25. Sequencing ideas in a story read and recorded on a chart
26. Listing words commonly found in stories dictated
27. Finding commonly used words in magazines and books and recording them

READING READINESS ACTIVITIES AND LANGUAGE EXPERIENCE

Current Research Implications:

The following statements are based on current research findings in the area of reading readiness (Hall, 1976; Downing, 1969). They provide the basis for the activities included in this guide.

Literacy concepts

- Develop children's understanding of the terms used in learning to read, e.g., alike, different, top, bottom, letter, sound, space, word, beginning, middle, end, rhyme.
- Help children to see a purpose for reading.
- Left to right progression is essential.

Visual Discrimination

- Major emphasis should be placed on developing children's abilities to see likenesses and differences in letters and words. Exercises using non-word forms (e.g., geometric shapes) are of no value toward reading instruction.
- Visual memory training - the ability to retain a visual image of a letter and/or word - is critical.
- Opportunities must be provided for two types of visual discrimination activities:
 - simultaneous-matching letters and words
 - successive-discrimination with example removed.

Letter Knowledge

- Children should grasp the basic understanding that words are made up of letters and should be able to associate letter forms with letter names.
- It is not necessary to have full letter knowledge before reading is begun.
- The distinctive features of words and letters should be pointed out to children.

Auditory Discrimination

- Training in this area is frequently over-emphasized, especially when children will not be learning to read in phonic-oriented materials.
- Only a few children will need help hearing sounds in the environment.

Integrating Visual and Auditory Skills and Letter Knowledge

- Instruction in letter knowledge, auditory and visual discrimination should be integrated whenever possible. Children need to understand the phoneme-grapheme relationship. That is, they must be able to associate the letter sound with the written symbol.



ACTIVITIES

The following are suggestions of approaches for developing selected reading readiness skills within the context of the language experience story. This list is merely suggestive and is by no means exhaustive.

Literacy Concepts

1. When labeling and taking dictation, call attention to the fact that you are writing a word and that the word is made up of letters.

2. Have child count each letter in his name card. Compare with the number of letters in other children's names. Which is longer, shorter, the same?
3. When taking dictation ask the children to supply the first letter for some words.
4. As you take dictation emphasize that we leave a space between each word when we write it.
5. Have children listen as you read a sentence from the chart and count each word they hear. Then have them look at the chart and compare the number of written words with the number of words they heard.
6. Cut stories into individual words. Have children reconstruct the story by matching individual words to a copy which is intact.
7. Have children draw a line under all the words that have a specified number of letters.
8. Have children count the spaces they see in a line of print.
9. Have children count the number of words in a sentence, or in a line of print.
10. Using their word bank cards, have children build sentences.
11. Read literature to children; have them retell, dramatize, use puppets, or illustrate it.
12. Have children dictate their reactions to books read.
13. After making their own books or chart stories, place them in the library for others to share.
14. Encourage children to "read" their stories to others.
15. Read books to children which supply information on topics being studied.

Visual Discrimination and Visual Memory Activities

1. Activities similar to # 4, 6, and 7 under Letter Knowledge are also appropriate here.
2. Select words from the chart. Place each word on a flash card. Have children match to words on chart.
3. Show a word on a flash card. Remove from view. Have children find on chart and underline.
4. Use similar approach as described in #2 and 3 and have children match phrases and sentences.
5. Give children two copies of the story. Cut one up into individual words, phrases, or sentences. Have them rebuild the story.
6. Using name charts, have children match their name using their name cards.
7. Place words of similar configuration on a list. Note their distinctive features. Discuss how they are alike and how they are different.
8. Give children a specific letter to look for. Have them underline that letter as often as they locate it on the chart.
9. Select a word from the chart, e.g., *run*. Name the first letter. Ask the children to name the first letter. Tell them that this letter can be written another way. Write R. This is called capital R. All letters can be written as capital letters. Your names begin with a capital letter. Talk about the distinctive features of R. After a few capital letters are introduced have children match the upper and lower case forms.
10. Have children match lower case letter cards with upper case letters in words on the chart and vice versa.

11. Ask children to find upper case letters on the chart. Use no visual cue.

Letter Knowledge Activities

1. Each child should be given an individual set of letter cards both upper and lower case to use in matching activities.
2. When taking dictation and/or making cards for individual word banks, call attention to the letters in words. Select a letter and note its distinctive features.
3. Call attention to letters in children's names.
4. Have children match the letters in their names, using letter cards.
5. Have children count the letters in their names, words on chart, etc.
6. Give child a large card on which a letter is written. Have him match it to the same letter on the chart.
7. Show a letter card, allow children to look at it, remove from view, and have them find the letter in words on the chart.

Auditory Discrimination Activities*

Initial Phonemes

1. Have children listen to the beginning sounds of words selected from the chart, e.g., him—her—hat. Do they all begin with the same sound?
2. Use children's name charts. Ask them to listen for similarities in the beginning sounds of several names, e.g.: Do these begin with the same sound?

Sue Sally Sol
Sue Bill Sol

3. Point out that two or more words on the chart begin with the same sound. List them on the board. Have children repeat the words after you. Elicit from the children that they look alike and sound alike at the beginning. Underline the initial phoneme. Name it.
4. Give children yes-no cards. Ask them to raise the appropriate card if the words you say do/do not begin with the same sound.
5. Take words from chart which begin with the same sound. Have children listen and use the initial phoneme plus oral context to provide the answer to a "riddle".
"Listen to the beginning sound in "do," "David," "dog." What letter do they begin with? Now listen to the sentence I say and put in the missing word. The missing word will begin with the letter and have the same sound as you heard in "David," "do," "dog." "a puppy is a baby d_____."
6. Ask children to supply words that begin with the same sound as a word you select from the chart.

Similar approaches can be used for developing the ability to discriminate rhyming words, ending, and medial sounds.

Integrating Visual and Auditory Skills and Letter Knowledge Activities

1. Have children frame or underline words in the story that begin or end with the same sound as a word you state.

*The reader is referred to the unit on the Senses in this guide. This unit contains many suggestions for developing the ability to hear non-verbal sounds which should be helpful for children who need assistance in that area.

"Can anyone find a word in the story that begins with the same sound as rattle?
Can you tell me the name of the first letter in those words?"

2. Take a sentence from the story. Delete one word leaving only the initial phoneme. Read the sentence to the children and have them supply the missing word.

Jack is a b_____.

3. Have children focus on a word which you have selected from the chart and written on a flash card. Ask them to look at the beginning letter in the word. Read an appropriate sentence from the chart and ask them to frame/underline the words that they hear that begin with the same sound.

Hold up: *ran.*

Read: *The puppy ran beside the red wagon.*

Ask: *Can you tell me the name of the letter that ran begins with?*

4. Have children make alphabet books and letter charts using appropriate pictures.

Left to Right Progression

1. Be sure children are seated so that they can observe you writing in left to right direction.
2. Tell children that when we write and read we go from left to right. Remind them as you begin to take dictation, read it back, etc.
3. Always move your hand from left to right under each line of print when reading dictated stories.
4. Have children underline words, letters, phrases from left to right.

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PARENTS AS PARTNERS

Frequently we overlook the vital role which parents can assume in assisting the classroom teacher. In elaborating upon the need for a partnership between home and school, Yardley (1974) observes:

If we are to obtain for the child learning conditions in which his abilities are maximized, we must respect the contribution made by parents. Moreover, we must see the role of the parents in perspective. It is arrogant to assume that the school's function is to compensate for the ineffectiveness of some parents and that we are authorized to tell the parents how they may be allowed to help. Few parents are failures. The majority do what they can, and many do an excellent job. In every case it is of the greatest use to the child to establish a partnership between home and school in which parents and teachers play **reciprocal** roles.

Approaches for developing effective parent-teacher relationships include:

Introductory Letters

These letters contain a welcome to parents; a statement of instructional goals for the year; a description of the classroom; and a personal invitation to come in for a visit or contact the teacher.

Acquaint Parents with Program

Use an early letter to parents as a vehicle for informing them about the daily schedule and impress upon them the need for flexibility in the daily routine. Follow this letter up with a parent meeting in which you explain your program specifically. Allow plenty of time for questions and provide opportunities for parents to explore learning centers and teaching materials.

On-going Communication

The parent newsletter is an effective and comparatively simple way of contacting each parent. Included in the newsletter might be a listing of current classroom activities, class news and samples of children's work. The newsletter provides a vehicle for the teacher to explain parent conferences, their purpose and procedure. It also provides a means for communicating information about valuable television programs, books suitable for parents and children, family activities, field trips, and out-of-school programs.

Parent Visits

Yes! Parents are always welcome to visit their school and their child's classroom. In most cases, however, you might request that they make an appointment prior to their visit.

Parent Conferences

These are a must and should be conducted frequently. Whether scheduled formally or informally, they provide tremendous opportunities for sharing information about the child. They should not be a "one way street." Many times parents can provide valuable insights. It pays to listen as well as talk.

Many teachers find it effective to conduct parent conferences in the child's home. While time consuming for the teacher, the parent is often more at ease, and scheduling and travel problems are minimized. Such visits demonstrate true caring for the child and an indepth desire to work with the parent for the good of the child.

Parents as Volunteers

There is no better way for a parent to become informed about classroom activities than to become involved with them by working as a volunteer. Be sure to assign meaningful tasks to parents. They can be an invaluable help to you. Some ways in which parents can be of assistance include:

- Taking dictation
- Reading to children
- Writing words in their writing dictionaries and on their word bank cards
- Listening to children read
- Overseeing learning centers
- Helping children cook, sew, weave
- Sharing field trip responsibilities
- Playing learning games
- Being a friend to children

Parents as Creators of Learning Materials

Another valuable experience for teacher, parent, and child is to provide an occasional evening or Saturday in which parents come to school for the express purpose of working with you to build learning materials. Through this approach, parents not only help you but they become familiar with the learning related to your varied activities and games.

While all may not be able to contribute in this way, most parents will willingly cooperate by collecting all kinds of junk which can be transferred into child-treasured jewels to be used by their children in the classroom. Lists of what you need can be included in the newsletter or sent home separately with the children.

A sample of a sign-up sheet which one teacher sends with an accompanying letter to the parents of her children is included at the end of this section.

Parents Handbook

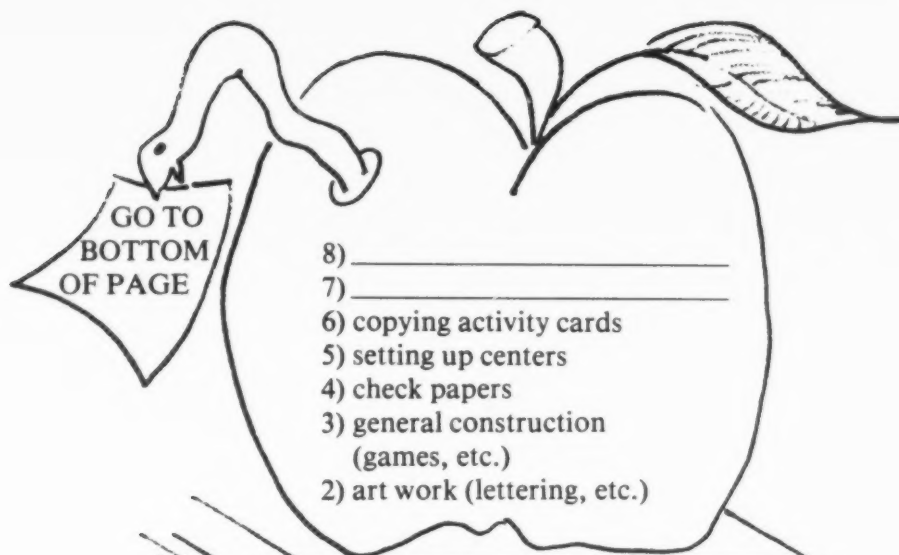
An ideal way to inform parents of the various school policies and routines is the Parent Handbook. Published annually, it should include such information as:

- School Calendar
- Facts About School
- Aims About School
- Goals
- Daily Schedule
 - When a child misses school
 - When a child is tardy
 - When a child has to leave early
- Bad weather, how to know if school will close
- School Insurance Program
- School Lunch
- School Parties
- Transportation
- Benefits of Exposure to Live Cultural Performances
- Field Trips

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1) typing
B. Production Line

11) other
10) going on field trips
9) helping students with drama
8) helping students in music activities
7) giving assessment test to pupils
6) helping students with projects

5) helping students at Art Center
4) cooking with children
3) flashcard type activity
2) reading to children
1) listening to children read
A. Working with Children

III. Choose specific task given above in broad classification.

B. Production Line (clerical, making things)
A. Work with Children
II. Chooses one of two broad classifications.

Parent contacts teacher.
I. Teacher makes request in letter to parents.

PROCEDURE FOR BECOMING A VOLUNTEER

BEGIN READING AT BOTTOM (HERE) - WORK UP



INTRODUCTION TO UNITS

This section of the guide presents ten units of study which have been field tested in the classroom. Each unit includes a list of concept learnings, language learnings, and selected vocabulary. Introductory, culminating, and ongoing activities, as well as a list of teacher resources and children's literature are included in each unit. With the exception of the unit on the senses, the cover page for each unit contains a summary of learnings which are possible when these or similar units are pursued.

The activities which directly lend themselves to the Language Experience Approach suggest labeling, recording, dictating, or writing stories only. We have not elaborated upon their specific use. This is intentional and not an oversight. Specific follow-up procedures to enhance and develop reading readiness skills must be determined by the classroom teacher based on her knowledge of the individual needs of the children in her classroom. When using these activities, refer to Part Four of this guide which focus on the Language Experience Approach and present Reading Readiness and Language Experience Activities, and select approaches which will assist you in tailoring your program to match the needs of each of your children.

COOKING

READING READINESS AND LANGUAGE EXPERIENCES

Dictating and writing experience stories
Reading picture recipes (top-to-bottom, left-to-right)
Retelling the activities in proper sequence
Sharing songs and stories
Expanding vocabulary meaningfully

Math

Classifying foods according to food group, color, size, shape
Measuring and weighing
Developing concepts of more, less
Sequencing of steps
Learning simple multiplication and division (doubling, taking $\frac{1}{2}$ of recipe)
Timing

Sensory Value

Seeing different ingredients and observing change
Smelling ingredients and food cooking
Tasting raw and cooked foods
Hearing food while preparing, tasting, cooking
Feeling different textures of food

Social Gains

Total group involvement
Sharing
Cooperation
Taking Turns
Developing good manners
Following directions
Group clean-up time
Feelings of accomplishment and self-worth

Science

Predicting outcomes
Observing food change
Nutrition education (4 food groups, balanced diets, exposure to wide range of food tastes, choosing food more wisely)
Practicing proper sanitation and kitchen safety
Observing plant growth

Social Studies

Studying holidays and customs
Learning cultural differences
Producing and transporting food
Sharing of favorite recipes from home

COOKING

Rationale

Cooking with young children is an exciting activity with numerous opportunities for learning. Feelings of accomplishment, self-worth, and cooperation are developed. Involvement as a group takes place from the cracking of the first egg to the final cleaning up.

Reading readiness and language experiences also readily lend themselves to cooking activities. Children enjoy reading picture recipes (incorporates top-to-bottom and left-to-right), dictating experience stories after cooking (involves retelling the experience in proper sequence and meaningful vocabulary expansion), and listening to related songs and literature.

Math is easily integrated: measuring and weighing (5 ml of water, 220 grams of flour, 227 grams of margarine), more or less of one ingredient, doubling or taking one-half of a recipe, step-by-step instructions, using money (buying the ingredients at a store), timing (mixing for a certain length of time or checking a clock to see when the product is done), and classifying foods according to food group, color, size, and shape.

Regarding scientific values, children can observe food changing; for example, how brittle spaghetti or macaroni becomes soft after boiling or how an egg becomes hard after it is cooked. Children also enjoy predicting outcomes, and their guesses can be recorded before the cooking experience. Nutrition education through cooking is very valuable. Content of a unit could include the basic food groups, balanced diets, exposure to a wide range of food tastes, and how various foods are used by the body. The teacher can help to develop good food habits. Therefore, she needs to select recipes carefully. For example, those that ask for refined sugars, salt or other ingredients with little food value should be avoided as much as possible or substitutes (e.g. honey for sugar) can be used.

Foods can also show the cultural differences among ethnic groups, and teachers can choose certain recipes to highlight these contrasts. This could fall into a social studies unit on foreign lands and customs or perhaps be incorporated into a holiday. Songs and stories can again be added. Parents can become involved by contributing their own recipes. Field trips can heighten the total experiences; visits can be made to dairies, bakeries, grocery stores, and farms. Our interdependence on others to produce and transport food can be discussed as part of the total social studies learnings.

Sensory values are very evident while cooking. Seeing bread rise or watching whipped cream solidify into butter, smelling onions cooking or apples and cinnamon baking, feeling a pineapple shell or the inside of a pumpkin, hearing celery crunch or corn popping, and tasting warm blueberry muffins or sweet honey butter spread are all experiences children will never forget.

SELECTED VOCABULARY

blend	simmer	customs
ingredient	boil	double
cut in	food mill	mash
mixture	tender	one-half
coarse	shell (verb)	peel
knead	texture	milliliter
stir	shortening	liter
sprinkle	teaspoon	centigrade
dough	cream	topping
flatten	extract	utensils
rise	sieve	sanitary
batter	fold in	quarter
cone	peak	dash

Cooking with Children

A few suggestions need to be kept in mind before a cooking activity is begun. The following is a helpful list from *An Activities Handbook for Teachers of Young Children* (Croft and Hess, 1975).

- Be alert to children with food allergies.
- Be very cautious when serving or preparing foods which might cause choking, especially nuts, raw carrots, celery, and popcorn. Children should always sit down to eat.
- Limit the number of children to avoid crowding and to allow for adequate participation of each child.*
- Use low work tables and chairs.
- Use unbreakable equipment whenever possible.
- Have enough tools and utensils for the children.
- Use blunt knives or serrated plastic knives for cutting cooked eggs, potatoes, bananas, etc.**
- Pre-plan the steps of the cooking project and discuss plans with the children before beginning.
- Recognize that long hair should be pulled back and fastened; floppy clothing and cumbersome jackets should be removed. Aprons are not essential but helpful.
- Inexperienced children should begin with simple recipes requiring little cooking.

*It should also be noted that cooking is the perfect activity to involve parents, grandparents, children from higher grades, and/or classroom aides. Groups of seven to eight children are ideal. Proper sanitation, kitchen safety, and good manners can all be discussed before "team cooking captains" choose "good cooks" for their respective groups. Monthly cooking projects allow each child to become a team leader at least once. Another way to allow for maximum participation of each child is to break down the steps in a recipe; for example, 1½ liters of flour might mean six different children each measuring and leveling ¼ liter of flour.

**For cutting vegetables sharp knives are necessary. However, the teacher should use caution and supervise carefully.



WHY COOK?

All teachers, especially teachers who have never cooked with their children, are encouraged to try cooking in the classroom.

Food preparation is an exciting experience for a child. When a child has been involved in a food preparation project, he usually makes a commitment to experiment and to try the finished project. This is more important today than previously because of lack of food preparation experiences in many homes. Busy mothers often use packaged convenience items so the child misses the sight of soup being made from beef bones with fresh vegetables being added, or the smell of yeast bread rising, or the satisfaction of watching fruits being canned for the winter. Children not only learn how to eat but they also learn to appreciate food. A value placed by a teacher or a parent on healthful food carefully prepared will be sensed by the child. (Musgrove and Oliver, 1977, p. 7)

Specific food and cooking activities follow. Whenever possible a food experience should not be isolated; a teacher can use her judgement to relate it to a field trip, seasons, holidays, or current concept emphasis. These activities are somewhat ordered in terms of ease and seasons.

COOKING WITH METRICS

Since metrics are the primary measure used in Maine Public Schools, metric measurements have been used in all our recipes. Presently some hardware stores and supermarkets carry a two cup plastic measuring cup marked in milliliters (ml). This cup

holds 500 ml and is calibrated by 50 ml. Since recipes for children's cooking need not be too exacting, we altered several measurements by rounding them out, as suggested by Johnson and Povey, 1976. For example, we calculated $\frac{1}{4}$ cup as 60 ml and $\frac{1}{3}$ cup as 80 ml. On the other hand, some authorities suggest that, when the product will not be affected, it might be easier for young children to round out $\frac{1}{4}$ cup to 50 ml and $\frac{1}{3}$ cup to 75 ml. Use your own judgement in this regard.

All full teaspoon measures are stated as 5 ml. Measures such as $\frac{1}{4}$ or $\frac{1}{3}$ teaspoon have been changed and indicated a dash, a sprinkle, a few drops, etc. with the exception of those recipes calling for soda, salt, or baking powder. In this instance, we suggest using more traditional teaspoon measures.

For your convenience, traditional recipes will be found in Appendix Seven for use until **you personally** "go Metric." Do however introduce and use metrics with the children and do not encourage their converting the measurement units. Children, who are just beginning, will have no difficulty with these terms.

EASY RECIPES

1. Apples

a. Applesauce (makes 18-60 ml servings)

19 apples	125 ml sugar
205 ml water	few grains of salt
dash cinnamon	

Wash apples. Cut into squares. Put apples, water, and salt in saucepan or electric frypan and bring to boil. Then lower heat and simmer until soft (15 to 20 minutes). Pour part of cooked apples into food mill placed over a large glass bowl. (If mill is unavailable, peel, core, and slice apples before cooking). Remove mill after pressing all the apples, and stir in sugar and cinnamon. Spoon about 60 ml of applesauce into small paper cups and serve.

Note: Seeds and peelings may be fed to birds. Watch out for spattering as the applesauce cooks.

b. Baked apples ($\frac{1}{2}$ apple per serving)

Wash, wipe, and core McIntosh, Northern Spy, or Cortland apples. Fill with raisins, crushed pineapple, or banana chunks. Add 5 ml brown sugar to center. Bake in covered dish for 10 minutes at 175° C. Remove cover and bake 20-30 minutes longer, or until the peel is tender. Serve warm or cold.

Other Activities: Discuss different ways apples can be used. Visit an apple orchard. Cut an apple in different ways (simple fractions, star shape containing seeds, apple wedges as snack).

2. Peanut Butter

a. Playdough (enough for 10 children)

500 ml powdered milk (instant or non-instant)
250 ml honey
500 ml peanut butter

This easy recipe makes a playdough you can eat. Put all ingredients in a mixing bowl and blend, first with a big spoon and then with your hands. The dough can be shaped into balls, "snakes," "peas," "cookies," and "pizzas." It can be cut with children's scissors or blunt

knives. You can also roll out the playdough with a rolling pin and cut it with cookie cutters. Let each child have a ball of dough and provide small sandwich bags for each to take home.

Note: Some children enjoy making letters or their name. The dough can be refrigerated for 10 minutes before using.

b. Making Peanut Butter

500 ml toasted peanuts in shell
30 ml salad oil
salt to taste

Shell the peanuts and put them through a grinder or blender. (If a hand-style meat grinder is used, you may wish to put the peanuts through twice). Add oil and salt.

Note: Let the children shell the peanuts allowing enough extra for them to eat. This may be served on crackers, bread/toast, or on celery sticks. Explain that peanuts grow underground at the ends of the flower stalks.

3. Macaroni

Follow the directions as listed on the package. Teachers may enjoy doing this cooking activity in the fall if they use the "Alphatime" Series as they introduce the first letter person, Mr. M. Other foods which he likes to "munch" on can be discussed as well as their food value (i.e., marshmallows, melons, meats, milk, molasses, muffins).

Note: Have the children observe the differences in texture and taste before and after cooking. This could be served with the butter which is described next.

4. Butter

500 ml heavy or all-purpose cream
dash salt
(dash yellow food coloring)

The cream may be poured into a glass mixing bowl or six baby food jars. Use a hand egg beater until flecks of butter appear in the bowl or likewise if the jars are shaken. Pour off the milk (this is buttermilk — let the children taste this with plastic spoons.) Mash the butter into a ball using a wooden spoon. Add the salt and coloring.

Note: Relate this activity to a visit to a dairy farm or grocery store. Note differences between butter and margarine.

5. Pumpkins

a. Pumpkin Cookies (4 dozen)

80 ml shortening	20 ml baking powder
250 ml sugar	¼ teaspoon salt (dash)
2 eggs	dash ginger
5 ml lemon extract	250 ml raisins
5 ml vanilla	dash nutmeg
250 ml cooked pumpkin	chopped nuts
625 ml flour	

Cream shortening and sugar, beat eggs in well. Stir in vanilla and lemon extract. Put pumpkin through a sieve and add, mixing well. Sift dry ingredients and add with the raisins and nuts. Mix thoroughly. Drop by teaspoonsful onto greased cookie pan and bake about 15 minutes at 190° C.

Note: Read and discuss *Mousekin's Golden House*, as an introduction to this activity. If possible, go to a pumpkin patch before Halloween and gather pumpkins. Open and clean them: use some for cooking and others for carving. Pumpkin puddings, pies, and bread may also be made.

b. Pumpkin Seeds

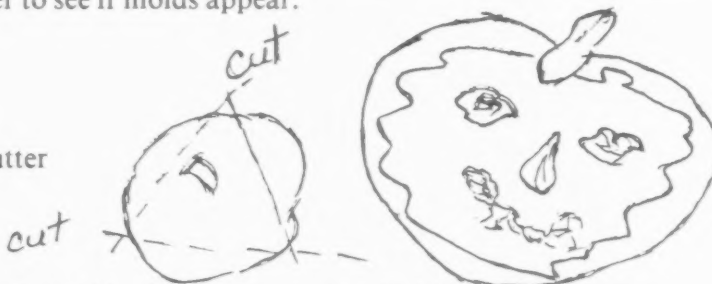
These may be salted and roasted on a cookie sheet at 120° C. for 20-30 minutes, or fried/sauteed in a fry pan with oil and salt.

Note: It's fun to guess how many seeds are in a pumpkin and to compare amounts found in different pumpkins.

Another Activity: Take the jack-o'-lantern after Halloween and put it in a covered terrarium or aquarium. Have the children check on the pumpkin from time to time. Keep track of how many days before "white fuzz" (mold) appears. Soon black/gray spots will appear in the mold (similar to seeds, from which new molds can grow). Snack-time leftovers may also be placed in the container to see if molds appear.

6. Halloween Healthy Snack

Peanut butter
apples
raisins
Peanuts



Slice off outside piece of apples and cut skin side down — spread with peanut butter.

Place raisins for eyes and mouth.

Use peanuts for nose and pumpkin's stem. Yum! Yum!

7. Popcorn

popcorn
oil
(butter)

Probably the best method to popcorn is the electric popper with the see-through top so children can watch. This is an excellent cooking activity for using all the senses. Let the children examine the corn kernels before popping. Have them observe the changes in size, shape, texture and color. Explain that it is a special type of corn, different from that which we eat off the cob. (Each kernel of popcorn has moisture inside it and when the popcorn gets hot, the moisture turns into steam and causes the popcorn to explode).

Note: A picture recipe easily lends itself to this cooking activity.

8. Thanksgiving Sherbet

450 gram can	2 egg whites
cranberry sauce	60 ml sugar
45 ml orange juice	125 ml lemon juice

Put cranberry sauce into bowl and beat with hand beater until soft and smooth. Mix in orange and lemon juice, and freeze until mushy. Turn mixture into cold bowl and beat again until smooth. In another bowl, beat egg whites until they peak. Add and beat lightly again. Fold into chilled mixture and freeze until firm.

Note: Have children examine a cranberry before it is made into sauce. Record observations. Compare these with observations made after cooking.

9. Beef Stew (approximately 25 small servings per crock pot)

Each child can bring something from home for this sharing activity done at Thanksgiving. For a class of twenty children, a typical breakdown of ingredients follows:

- 4 children - 227 grams stewing beef each
- 4 children - 3 potatoes each
- 4 children - 4 carrots each
- 1 child - 2 stalks celery
- 3 children - 2 onions each
- 2 children - 1 can beef bouillon each
- 2 children - styrofoam cups and napkins

All this makes enough for two crock pots; the feast can be shared with another kindergarten class which may want to prepare applesauce and cornbread and butter. A group of ten children can prepare all the vegetables and meat for one crock pot. The ingredients are cut into small pieces and only 3-4 hours on high temperature are required. Store the stew in stainless steel containers to be reheated and eaten the next day.

Note: *Resources for Creative Teaching in Early Childhood* (See "Resources for the Teacher" at the end of this section) has an excellent section on "Thanksgiving in America" (pages 241-256). Ideas for centers are listed as well.

10. Gingerbread Cookies

11. Latkes

See December Holidays Unit page 152.

12. Shape Cookies

- 250 ml softened margarine
- 250 ml brown sugar
- 80 ml honey
- 60 ml water
- ½ tsp. salt
- ½ tsp. soda
- 750 ml flour
- lifesavers or small lollipops

Blend all ingredients except candy and preheat oven to 165° C. Shape dough in varied configurations on wax paper. Place on cookie sheet. Bake 5 to 8 minutes. Remove from oven. Fill cookies with the candy. Place back in oven another 5 to 8 minutes.

Note: Read and discuss *Mousekins Golden House* as an introduction to above activity.

13. Betty Crocker's Paintbrush Cookies (5 dozen)

- | | |
|-----------------------|---------------------|
| 80 ml soft shortening | 680 ml sifted flour |
| 80 ml sugar | 5 ml baking soda |
| 160 ml honey | 5 ml salt |
| 5 ml vanilla | |

Mix first four ingredients thoroughly. Stir in last three. Chill. Heat oven to 190° C. Roll dough on floured surface to 5 millimeters thickness. Cut in different shapes. Set on greased baking pan. Paint designs with egg yolk paint. Bake 8-10 minutes.

Egg Yolk Paint

Blend well 1 egg yolk, a few drops of water, divide mixture among several small cups and add a different food coloring to each. Paint designs on the cookies with small paintbrushes.

Note: For Halloween, pumpkin-shaped cookies are fun to make. Both Tupperware and Hallmark have an appropriate cookie cutter which many mothers already own. No food

coloring needs to be added to the egg yolk paint for the correct color. Since this recipe makes so many cookies, the children may like to deliver some extra, with a copy of the recipe to the principal, secretary, cooks, janitor, etc.

14. Irish Soda Bread (St. Patrick's Day)

1 liter unsifted flour
5 ml salt
60 ml sugar
15 ml baking powder
5 ml baking soda
80 ml margarine
500 ml dark seedless raisins (optional)
375 ml buttermilk or sour milk (to make
375 ml sour milk: use 375 ml sweet milk
and 15 ml vinegar)
1 egg beaten

Blend together all dry ingredients. Cut in margarine until mixture resembles coarse meal. Add raisins, milk, and egg, and stir until blended. Knead on floured pastry board about one minute or until smooth (each child may count to ten and knead). Shape dough into two balls and place each in a greased, 20 cm across cake pan. Flatten to fill the pans and cut a deep cross in top of each loaf. Bake at 190° C. for forty minutes.

Note: Perhaps two teams will work out - one with and one without raisins. The making of butter can also accompany this activity. Check with the kitchen personnel to see when the ovens can be used. An entire St. Patrick's Unit can be done, complete with parade, hats, and green goggles (see *Early Years*, March 1979).

15. Mother's Day Cookbook

Have each child bring in a copy of his or her favorite recipe. Type the recipes on standard-sized paper, two to a page, and cut the pages in half. Staple the pages together with a sheet of vinyl wallpaper folded for the cover. Print a title such as "A First Class Cookbook" with magic marker on the front. Discuss the various recipes: ease of preparation, length of preparation, ingredients, and popularity.

Note: The children like their teacher to include her favorite recipe in the cookbook, too!

16. Blueberry Muffins in Ice Cream Cones

These can be made from a "mix" or the recipe as follows: (one muffin mix makes 40 ice cream cones filled $\frac{1}{2}$ - $\frac{2}{3}$ full. This prevents scorching of the top of the ice cream cone.)

1 egg beaten	15 ml baking powder
250 ml milk	$\frac{1}{2}$ teaspoon salt
60 ml melted shortening	60 ml sugar or molasses
500 ml sifted whole wheat flour	375 ml berries
	60 ml wheat germ

Combine milk and egg. Stir into dry ingredients. Add shortening. Stir lightly; batter should be lumpy. Add blueberries and barely mix them in. Each child places a cone in a space in a muffin pan and fills the cone $\frac{1}{2}$ - $\frac{2}{3}$ full. Bake 15-20 minutes.

Note: Now is a good time to share *Blueberries for Sal*. Have the children take their cones outside, sit down in a circle, eat, read, and enjoy!

17. Fruit Salad

Invite the class to bring in fresh local fruits and have on hand fruits such as apples, bananas, oranges, peaches, pears, pineapple, seedless grapes, and tangerines. It is also interesting to bring in one unusual fruit such as an avocado, papaya, or mango to see the children's reactions and to provide an opportunity to try a new food. This preparation of a "community" salad makes for an excellent change for social gathering. The children should be encouraged to talk about the different colors, tastes, textures, and smells of the fruits, as well as how they grow. Children can cut the softer fruits with table knives, and sharper knives may be used by some youngsters to cut the more firm fruits. The teacher will want to prepare the pineapple. Save the seeds, dry them for two days, plant them, and see which ones grow. The pineapple top after having dried overnight, may also be placed in water (peel away the leaves from the bottom of the top until 2.5 cm of white core is exposed) until 2 cm roots appear; then it may be planted in a pot with soil.

Note: This is a good example of an activity to which each child can probably contribute an ingredient. Sometimes parent-teacher organizations will contribute a sum of money to a classroom teacher to help fund such activities as cooking.

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- *Excellent assistance with metrics
- **Excellent resource guide available free of charge



SEASONS



LANGUAGE

Discuss activities
Listen to stories and poems
Retell stories
Write stories and poems
Learn vocabulary
Relate terms, opposites, alike, and different
Classify
Make fingerplays

LABELING

Write stories and poems
Relate oral language to print
Make similes
Share own and group books
Match words and letters
Study sequence
Use vocabulary

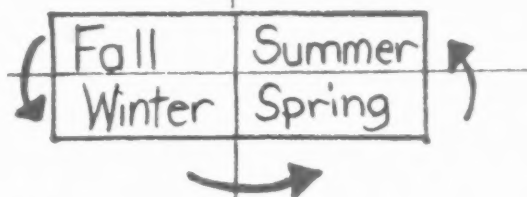
SCIENCE

Study
Seasonal change
Hibernation
Preserving foods
Temperature changes
Freezing
Growing plants
Butterfly life cycle
Seeds
Shadows
Plant parts
Harvesting
Classification
Observe
Solve Problems

ART



Illustrate books
Draw murals
Make movies
Draw picture charts
Draw leaf prints
Make collages
Make musical instruments
Draw night snow scene
Paint soap flake
Make paper flowers



SOCIAL STUDIES

Study four seasons in Maine
Study Equator and North and South Poles
Learn about clothing
Take field trips

MATH

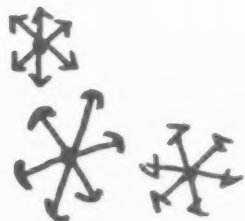
Use thermometer
Take measurement
Put in series
Price foods
Develop one-to-one correspondence

OTHER

MUSIC

Sing songs
Play musical instruments
Do finger plays

Socio-dramatic play
Pantomime
Movement



SEASONS

Rationale

A study of the seasons will do much to enhance the children's knowledge of the physical world. Fortunately in Maine, children can actually experience all seasonal changes. Innumerable skills, as presented on the flow chart, can be developed using the seasons as a vehicle.

Note: To facilitate use of the Unit, the activities are categorized according to seasons and within curriculum areas. There is also a set of All Season Activities. You may prefer to focus on each season as it arrives. There are many activities which with slight variations can be adapted for use in another season. However, do be alert for additional ideas suggested by the children as an outgrowth of discussion.

Since many of the activities are developed in group discussion, you may wish to establish rules for behavior early in the Unit. The following, taken from the DUOSO Program, are suggested.

- Lefty's rule — Raise your hand
- Soupy Turtle — Listen carefully
- Clarissa Clam — Don't clam up
- Spike Swordfish — Stick to the point
- DUOSO the Dolphin — Think together

CONCEPT LEARNINGS

To develop the child's ability to:

- Understand that nature is always changing
- Understand the sequence of events
- Understand how people and animals adapt to changes in nature
- Realize the function of the thermometer and how it is used.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand the group rules for discussion.
- Match letters and words in context.
- Observe and translate observational findings into language.
- Classify objects according to seasons.
- Use comparative terms, opposites, and relational words.

SELECTED VOCABULARY*

thermometer	globe
mercury	equator
expand	north pole
hibernate	south pole
harvest	quiet
cleanup	gray
blooming	windy
humid	slushy
lazy	evergreen
feeder	migrate
sprout	tadpole
freeze	frost

INTRODUCTORY ACTIVITY

Have on hand a collection of pictures which illustrate the four seasons. Read *What Is A Season?* Follow up with a discussion of seasonal changes, have the children order the pictures, and explain what happens in each season.

Activities

1. After reading *Animals in Winter*, discuss hibernation; elicit from children what it means. Classify animals as to those which hibernate and those which do not. Place on large chart. Make into a classification game for science center.
2. Read *Now It Is Fall*. Have children discuss all the things which change in nature when fall arrives. Ask if they have any ideas why these changes occur. Record on a chart.

Changes in Nature Reasons Why

3. See Activities number 20, 21, 25, and 26 in *Food and Nutrition* Unit.

Activities (Winter)

1. Read *What Is It?* by Aileen Fisher to the children on a snowy day. Then catch and observe snow flakes on a dark material. Look at them under a magnifying glass. In what way are they alike (count the sides to see that there are six)? How are they different? Conclude activity by reading another poem on snow and asking the children to make up their own poems about snow. Bind poems into a class book.
2. Talk about snow and how it is formed as drops of water cool, then fall to the ground. Can we change snow back to water? Bring snow inside and allow to melt in a pan. Discuss its change to liquid form and write a story together describing the process.
3. Store some snow or snow balls in the freezer. Bring out in spring or early summer when the snow outside is melted. Discuss why the stored snow is still frozen. Have the children write a before and after story.
4. Explain to the children what happens to some animals in winter. Follow up with problem-solving questions — e.g., "*What do you think happens to the fish in lakes and streams when it freezes?*"

*This list is merely suggestive of the many possibilities for vocabulary growth and development.

Activities (Spring and Summer)

1. Cut a blotter to fit standing up around the inside of a glass jar. Insert bean seeds (about 3 or 4) between blotter and jar and keep blotter moist. Watch roots grow and plants take form. Have each child record growth of his own seeds by making a picture chart to show how seeds look at given intervals.
2. Place a large sponge in a flat pan and sprinkle with grass seed. Keep water in bottom of pan. Place in sun and watch grass grow. Roots will go down into holes in sponge.
3. Have each child plant his own seeds. Radish and bird seed are best due to the short period required for germination. Pea or bean seeds are also good as they grow into larger plants quickly. Have the children examine the seed after it has germinated to find the small plant. Have children measure the growth of their plants with colored paper strips, cutting each off to indicate length and place on their individual plant chart each day. A meaningful bar graph will result in a few days.
4. Have the children imagine what would happen if summer never came. Encourage discussion of all possibilities and speculate on how this would affect the animals and plants. Record on a chart "A Year Without Summer."
5. Daily observations of a nearby tree help the children to realize the blossoming process. Illustrate these observations and combine into a book — *"A Tree Comes Alive."*
6. Take a field trip to study and observe different kinds of flowers — their colors, shapes, smells, and growth patterns. When back in the classroom, have the children make a roller movie consisting of labeled illustrations of observations made.

Activities (All Seasons)

1. Visit the same place in the park or woods during fall, winter, and spring. Find the things that are different, and discuss why. Take pictures each time, so the children can see and remember how the place looked before. After the three visits, have the children order the pictures from beginning to end and compile into a class book.
2. Choose a tree to watch during the year. Illustrate and write individual books, *"Our Tree in Fall"*, *"Our Tree in Winter,"* etc.
3. After discussing activities undertaken in each season, have the children make picture charts showing the seasons and the activities. Label.

READING READINESS

Activities (fall)

1. Sing one or all of the following songs:
 - "Softly Softly Falling Down"
 - "Leaves of Yellow, Red and Brown"
 - "Nutting"
 - "Autumn Leaves"
 - "Shake the Apple Tree"

Have children dramatize falling leaves, shaking down apples, and related fall activities, and list fall vocabulary on a chart. Explain to the children that the word autumn is often used instead of fall.

2. Have a word gathering of words related to fall. Record as the words are given. Read the list through and have children dictate a group story on fall. After the story is completed, decide on a title.
3. Take a walk and look for changes in nature that suggest fall such as leaves, nuts, milkweed pods, and birds flying south. When back in the classroom, have the children make a roller movie of signs of fall, and dictate a sentence or two to accompany their picture.
4. Read the following poems and ask children to listen for the rhyming words:

Crunchy Leaves¹

We make such a crunchy sound
in the leaves upon the ground
Crunchy, crunchy hear the noise
Made in leaves by girls and boys.

Little Squirrel¹

I saw a little squirrel
Sitting in a tree;
He was eating a nut
and wouldn't look at me.

Walking Around the Block¹

We went walking around the block together
Leaves were scarlet, leaves were brown
It was fun in sunny weather
Squirrels darting, squirrels scampering
Acorns dropping — brown birds chattering
Leaves were crunching with our feet
Smell of pine was sharp and sweet.
We held pine cones in our hand
It was fun when we walked together
Walked around the block in autumn weather
Walked around the block in sunny weather
All of us liked it.
All of us thought it was fun.

Activities (Winter)

1. Take the children outside on a windy day. Have them walk against the wind, in the wind, with the wind. Give each child a brightly colored scarf to hold up to the wind. When back in the classroom, have them describe the effects of the wind on them and on their scarves. Record vocabulary using the "ing" ending, e.g., pushing, whirling, swirling, flying, twirling, flapping, sailing.
2. After reading the poem "Go Wind" by Lillian Moore, have the children dictate/write one of their own.

¹Above poems taken from:

Flemming, B.; Hamilton D.; and Hicks, J., *Resources for Creative Teaching In Early Childhood Education*.
©1977: New York: Harcourt, Brace, and Jovanovich, p. 373. Reprinted by permission of the publisher.

3. Read "*Snow Storm*" by Aileen Fisher or "*Treetop Ballet*" by Claryce Allen and have the children listen for words and phrases that authors use to describe the movement of wind, and snow. Have children repeat the words together.
4. Show the filmstrip, "*Winter Is Here.*" Have children write/dictate the script.

Activities (Spring)

1. Ask the children to bring in objects or pictures of objects related to spring. After the children have talked about them, set up a class display, and label all items. Give the display a title.
2. Discuss preparations that families make for spring (yard cleanup, house cleaning, remove snow tires, clothing changes, planting, storage of snow shovels, etc.) Write a group story on this topic.
3. Suggest that the housekeeping corner be spring cleaned. Develop plans for accomplishing the job. Record tasks and name of individual responsible on a "Spring Cleaning Chart."

Activities (Summer)

1. Distribute objects or pictures related to all seasons. Have each child who has a summer object, tell about it noting its characteristics and use. Record vocabulary.
2. Make class books of favorite summer activities.
3. Break the children into two groups. Show one group the filmstrip, "*Play in the Park,*" and the other "*Fun at the Beach.*" Have each group write a script for their filmstrip and share in the form of a story with the other group.

Activities (All Seasons)

1. Cut out small manila cards. On one card put a season word and on the other a tree that illustrates that season. Children then match the cards. So that they can self-correct, write the word on the back of the tree picture (laminating games or covering with clear contact adds to their longevity).
2. Make or use commercial sequence cards. Have children place in correct order: What happened first, next, last? An example:

Winter—a) Children building snowman
 b) Completed snowman
 c) Snowman melting

Spring—a) Seed planted
 b) Flowers growing
 c) Flowers in a vase

Summer—a) Men in a boat
 b) Men catching fish
 c) Men cooking fish over a fire

Fall—a) Leaves falling
 b) Leaves being raked
 c) Leaves being bagged

3. Visual matching of words may be adapted to a center by making games. On a manila card, write two columns of season words. Laminate. Provide grease pencils for drawing lines to words that match. A paper towel will clean the card.

4. Have the children select their favorite season and collaborate in small groups to write a book about it.

SOCIAL STUDIES

All Seasons

1. Use a flannel board to classify clothing and match to season words. These may be commercial or teacher-made sets. After the lesson, place materials in a center so that the children have an opportunity to use them independently.
2. After reading *Four Seasons*, develop the concept that in Maine we have four distinct seasons but that there are places in the world which do not; i.e., in tropical areas it is always warm or hot; near the poles it is cold or cool most of the time. Introduce the globe to illustrate. Introduce terms *equator*, *north pole*, and *south pole*.

ART

Fall

1. Press colored leaves between two sheets of waxed paper and iron with a warm iron to preserve color. Place on window to permit light to shine through. Discuss and elicit descriptive vocabulary.
2. Have children collect leaves, seeds, and other collage items on a walking trip. Press between waxed paper along with crayon shavings. Display on bulletin board. Label.
3. After reading *Jonathan and the Monarch*, have children collect seedpods and gourds; dry them out to make rhythm instruments. Use these for creative movement activity in which children interpret the cycle of the caterpillar changing into the chrysalis and emerging as a butterfly.

Winter

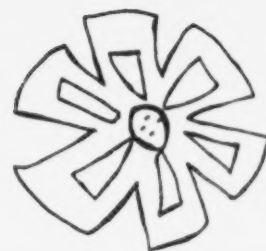
1. Discuss how the light at night changes the way things look.
 - What is the color of the night sky?
 - What color are houses?
 - What color are windows at night?
 - How do cars look? What color are their lights?
 - How do trees look? Are they green and full, or spidery and black?
 - Can we see the stars in the daytime? How do they look at night?
 - Describe the moon and its various shapes.

Following the discussion, provide the children with paste, scissors, magazines, and construction paper of the colors discussed (dark blue makes a good background). Encourage the children to cut out as many objects as they can remember and paste on the blue background paper. Then, with a small, round, porous sponge, **blot** with thin white or gray paint over entire picture and allow to dry. (Stress **blotting**, not rubbing or brushing.) Have children dictate a story about their art creation.

2. Mix up soap flakes and water to form a thick paste using an egg beater. Add a dash of liquid starch and white powdered tempera. Let children create designs by painting with the mixture. Make a book cover with this piece of art and dictate/write a winter story.

Spring

1. Make dimensional flowers. Cut pie shaped sections out of a paper plate. Move sections and glue them back on plate or fold shapes for a three-dimensional effect. If you paint with tempera, add a little liquid soap to make the paint adhere to the waxy coating. Add construction paper leaves and stems.



Summer

1. Make a watermelon seed mosaic. Wash and dry seeds. Make a light pencil sketch on heavy paper. Apply glue to small sections at a time, and lay the seeds on the sections. A variety of seeds adds color and texture.

All Seasons

1. Find a tree for each season. Find a small tree (not an evergreen) that has been discarded (near a railroad track or construction site, power line or any area where trees are regularly thinned). Stand tree in a bucket of sand or a christmas tree holder and keep moist. Discuss changes that occur from season to season. In the art center, have the children make green leaves and tape them to the branches. As the season changes, green leaves may be replaced with colored fall leaves. Next, you may keep the tree bare for a time. As spring approaches, make pink buds and small green leaves and attach.

This project may extend over a short or long period of time. With each change, an experience chart would provide an opportunity for finding words and letters that look alike and words that begin with designated sounds. A snapshot of the tree at various stages can be added to the chart.

MOTOR SKILLS

All Season Activities

1. Have children pantomime the following or similar scenes:

- Walking on hot sand.
- Walking in deep snow with heavy boots.
- Walking on ice.
- Walking through dried leaves.
- Walking around puddles.
- Walking in deep mud.

Elicit descriptive vocabulary (i.e., slowly, quickly, smoothly, quietly, splashing). Record on a chart.

2. Play season leap frog. Assign four children a season name. Label. Have other children help arrange players in order. Observe each other as they play leap frog, then ask:
 - Who always follows spring?
 - Who always follows summer?
 - Who always follows fall?
 - Who always follows winter?

This game may be played simultaneously by several groups of four children, helping demonstrate the continuity of the seasons — that there is no beginning or end.

3. Choose words and phrases that describe wind, rain, snow, and ice. Have children pantomime how they would walk and run in various kinds of weather. Examples:
 - Splashing in summer rain.
 - Walking on slushy days.
 - Walking against the wind.

MATH

All Seasons

1. Introduce the thermometer to the class. Guide children to conclude that as mercury *warms* and *expands*, it can only go up. Read the numbers together in sequence. Develop the understanding that the lower the number, the colder it is; the higher, the warmer it is. Place thermometer in direct sunlight or warm water. What happens? Place in refrigerator or cold water. What happens? Place thermometer outside window and have children record daily readings on a chart over short periods of time in different seasons to demonstrate outside temperature changes.
2. Develop one-to-one correspondence. Using a flannel board, place a flower for each stem, a hat for each snowman, etc. Place flannel board at a center so children can practice on their own.

Fall

1. Have children sort leaves they collected according to depth of color and/or size.
2. Have children pour different kinds of seeds from a small to a larger measuring cup, then from the larger to the smaller measuring cup. Discuss weight and conservation of quantity (more, less, same).
3. See appropriate recipes in *Cooking* unit.

Winter

1. Measuring the amount of precipitation on snowy and/or rainy days (collected in tin cans) can be an effective experience.
2. Price food items at a store while on a field trip to purchase ingredients for soup.

Spring and Summer

1. See Activities Number 1 and 3 in **Spring and Summer Science Section**.
2. After reading and discussing *What Makes a Shadow*, have the children go outside early on a sunny day with a partner to observe and measure their shadows. Then go out again later on to observe and measure. When was your shadow larger? When was it smaller? Why did this happen?

CULMINATING ACTIVITIES

1. Have the children write/dictate a script for a play which focuses on the seasons.
2. Hold a "word gathering" in which children brainstorm vocabulary related to the seasons. Have children select their favorite word and illustrate it and use as the basis for a dictated story, which is later bound into a class book. Share class book with other kindergarten classes.



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e - me - me - me - me

READING READINESS

ME

Matching name
Recognizing name and address

me

Dictating stories
Making books
Labeling

E x I

Initial phoneme in own name
Basic Literacy Concepts

m -

MUSIC

me

1E

Hap Palmer Records
Songs with Names
Free to be You and Me
Songs About What I Can Do

me - me -

ME

E x M

LANGUAGE

ME x N

e -

Retelling stories
Listening to stories
Fingerplays
Socio-dramatic play
Prop Boxes
Relational terms
Alike and different
Comparatives
Copying and writing name
Puppets
Making cards

me -

ME x

me -

E x M

MOTOR SKILLS

e -

Writing
Tracing
Drawing
Coloring
Pasting
Movement

x

MATH

x

e

Measuring height and weight
Bar graphs
Birthdays
Comparative terms
Numbers and counting
Calendar
One-to-one correspondence
Mapping

ne -

SOCIAL STUDIES

me -

M

x

ME

Family Relationships
Homes
Community Field Trip
Feelings

ME

ne -

me -

me -

x

ME

x

ME

ART

x

ME

e -

SCIENCE

e -

Self-portraits
Hand prints
Body parts
Silhouettes

me -

ME

Exploration of fingers, skin, hair

ME

ME

ME

me - me - me - me -

ME

Rationale

"Wouldn't it be wonderful if every child learned that he was important, cared for, listened to, loved as a person who could also extend himself in loving ways?"¹ We might hope that every child would have learned this before that first magic day of school. Many haven't, so kindergarten is the perfect place to ACT toward that end.

Development of self-esteem is a primary prerequisite to learning. Children must be encouraged to feel that they count, that they are worthy. Teachers can share in this: "I like the story you wrote," "I'm glad you are a part of our class," "You are working very hard on that."

Children who feel good about themselves are willing to take risks. They will try new things and they will expose themselves through conversations. For a child who has little self-confidence, the opposite is true.

This unit on *ME* could be the first one introduced as children enter school. They come with a variety of capabilities, and evidence different levels of readiness. *ME* is a topic with which children might be willing to share comfortably at their various levels. The encouragement of feelings of self-worth is an awesome and an ongoing responsibility that should continue beyond this first unit and encompass the whole school year and years to come.

CONCEPT LEARNINGS

To develop the child's ability to:

- Begin to understand the variety of differences in people.
- Classify objects.
- Understand and use relationship terms.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Organize ideas and information gathered through experience stories and picture study.
- Share ideas and feelings verbally.
- Listen as others share ideas, as stories are read, and as music is played.
- Recognize the relationship between spoken and written words.
- Appreciate the beauty of language, its sounds, rhythm, and rhyme as experienced through literature, music, finger plays and creative movement.
- Recognize his own name in print.
- Realize that people's names and street names begin with upper case letters and that lower case letters are used for most other words.

SELECTED VOCABULARY

easy	neighborhood	hard
community	high	family
low	feelings	names of others in class
	names of body parts	

¹Simon, S., and O'Rourke, R., "Every Child has Worth—Prove It." *Learning*, December, 1979.

SOCIAL/EMOTIONAL LEARNINGS

To help the child:

- Realize that **I** am important.
- Recognize that **MY** words can be written and shared with others.
- Develop a sensitivity to others as he waits his turn to speak, and as he listens to others.
- Relate to the larger group.
- Develop increased confidence as his ideas are accepted.
- Develop the ability to share negative feelings through words rather than physical actions.
- Understand that people have rights but also responsibilities.



INTRODUCTORY ACTIVITY

1. Display a Polaroid picture of each child, with his name written under it, above individual coat hooks. This should be done on the first day of school, the pictures having been taken on pre-registration day.

ACTIVITIES

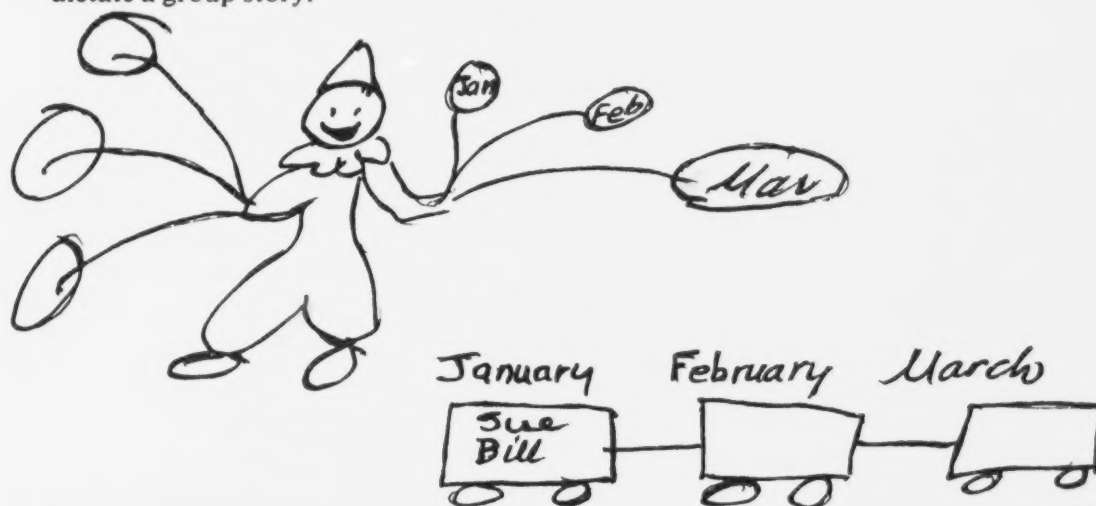
1. Using large butcher paper, have child lie on floor and trace around him. Have each child fill in details of his hair, eyes, clothing, etc. Label with child's name and place on bulletin board and/or classroom walls. Gather the children around the display for a concept development activity and ask the following or similar questions:
 - Find a girl with yellow hair.
 - Find a boy with green pants.
 - Which is the smallest figure?
 - Which is the tallest?
 - How many have brown hair?
 - How many are girls, boys?
 - Who is in between Bobby and Jane?
 - Show me someone beside John.
 - Who is first in line?
 - Who is at the end?
 - How many children have first names that begin with the same letter?
 - How many children have last names that begin with the same letter?
2. This activity may continue over several days and lead into the making of a large graph (math concepts):
 - How many boys in the class—how many girls?
 - How many birthdays in each month?
 - Weigh and measure the class, and graph the individual statistics.
3. Have children draw pictures of their families, label with names of family members. Discuss the differences and likenesses in families. How many families have the same number of children? A cat? A dog? Have each child dictate a story about his family. Combine all stories and illustrations into a class book on "Me and My Family."
4. Provide flannel figures of adults, children and domestic animals. Have children take turns putting their family on the flannel board and sharing the number of boys and girls in their family. Which family is biggest; smallest? Which families have the same number of children?
5. Provide Prop Boxes for children to use in role playing (e.g., repair person; car mechanic; doctor/nurse; hair dresser; cook/baker, etc.) by gathering items related to these various fields, and placing them in a special box. Let children role play these professions.
6. Use a mirror in the housekeeping area. Encourage children to look at themselves and describe what they see in the mirror. As they use dress-up clothes, have them note the changes in their appearances. Be sure to have a variety of clothes - dresses, shirts, ties, many kinds of hats.
7. After reading "*Susie Was Just the Right Size*,"¹ encourage the children to recall the events of the story including some of the things Susie could and could not do. Relate this to the lives of the children in the group, their feelings about their family, about the things they are able and unable to do. Write/dictate a group story, "*Things I Can Do*," with each child contributing a line, e.g.,
 - John can climb trees.*
 - Sally can help get supper.*

¹Woodcock, Louise, *Read Me Another Story*.

8. Have children sing the song, "There Are Many Things That I Can Do — All By Myself"*. Encourage children to contribute what they can do to the lyrics. Make a chart with children's names and list their activity.
9. Have children bring a baby picture and a recent picture. Label pictures and have the children write/dictate a story about how they grew.
10. Encourage children to decorate their own cubby or storage bin, and label this special space with their name.
11. Use puppets in creative dramatics situations to focus on concerns that might need discussing. Puppets can introduce the concern, and children can offer solutions. For example, a puppet might say, "I don't have any friends. I'm lonesome. What can I do?" With teacher as facilitator, children might offer suggestions to the puppet, who encourages conversation.
12. Trace around a hand, or dip in paint and print on paper. Frame it for a gift and label it. Make a card to enclose with the gift.
13. Make picture puzzles of people. Have children cut out pictures and paste on cardboard. Cut into shapes and count the number of shapes in each puzzle. Assemble the puzzles.
14. Use pictures showing people with different body parts missing. Some children may draw the missing parts directly onto the picture and label them.
15. Make lists of Things We Like and Things We Don't Like. Encourage children to express their likes and dislikes.
16. Have children draw pictures of their houses. Label with address and name. Put these on the wall. At group time, teacher might say, "If you live at 35 Maple Street, point to your house..." Do several at each group time. This helps feelings of identity and helps them to learn their address.
17. Use the above and have children count the number of children who live on the same street. One-to-one correspondence might be emphasized by noting that there is one house for each child in the class. (This activity could also lead into a unit of other kinds of houses—winter skiing lodges, summer camps, tents, etc., or a consideration of houses in other parts of the world.)
18. Make a map of the community depicting the school and other public facilities. Use stick pins with a labeled flag to locate each child's home on the map. Have children identify where they live. Discuss who lives farthest from school, closest to school. Take a walk around the community and let each child show off his home.
19. Cut out pictures of children with happy/sad faces, or depicting different situations. Encourage children individually to dictate an experience story about the picture. Paste the child's story labeled with his name, on the bottom of the paper with the picture.
20. Use the song: "Faces." Follow-up with conversation at group time about feelings and emotions. It is all right to be sad, angry, fearful, happy, lonely. It is all right to cry. Encourage children to talk about this, and when ready, to share experiences.
21. Make pictures of faces on paper plates, showing different emotions. Why does the face feel this way? Dictate a story to accompany the activity.
22. Have a display of various sizes of clothing, e.g., baby shoes, child shoes, adult shoes, sweaters, hats, pants, skirts of various sizes. Have children classify articles by sizes - baby, child, adult, or articles of clothing that "go together."

*See end of unit for words to song.

23. Label body parts on pictures of children (see activity 14).
24. Use a magnifying glass to explore fingers, skin, hair. Encourage the children to talk about what they see. Record on a chart.
25. Weigh and measure each child several times during the year. Note the growth that has taken place. Make a poster with child's name and statistics, and also use information for graph.
26. Make a silhouette of each child as a possible gift for parents. Have each child make a card to enclose and print his name on the picture.
27. Label a particularly interesting block structure—or just something someone feels is important: John's Garage — Mary's Castle — and leave it for others to admire.
28. Take snapshots of children during class outings or other activities. Place in album or book made by mounting pictures on construction paper. Label each picture with the event and names of children. Place it in school library where others can look at it. Children can also include experience stories about class activities or trips.
29. After reading the story *Everyone Has A Name*, talk with the children about their names, and other names they know. List all the names in the class. How many children have the same name? How many have different names? How many names begin with the same letter?
30. Allow children to choose (or assign if necessary) specific jobs in classroom. List jobs and child's name on a chart. Encourage completion of the job, providing help when necessary. Change jobs frequently.
31. Make a Birthday Train, labeling each car with a month of the year. (A birthday clown could also be used). Help children to identify the month of their birth and recognize it in print. Graph the number of children born in this month. Use this information to write/dictate a group story.



32. After reading *Is It Hard/Is It Easy?*, have the children recall some of the events in the story, discussing how they are alike and different. Continue discussion with things that are easy to do and things that are hard to do. Record on a chart. Label each child's contribution with his name.

Easy	Hard
Mary - climb a tree	John - saw wood
Sue - tie shoes	Ellen - skateboard

33. Have children make an illustrated class book from the list on the chart. They could dictate a sentence to go with the picture, and copy it under the picture. For example: Mary might draw a picture of a girl and a ladder. Her dictation might read: Mary said, "It is hard to climb a ladder."
34. Reinforcing concepts can be readily enjoyed through the use of finger plays. Whenever there are a few free minutes, the following finger plays have been included for convenience.

Mulberry Bush - emphasizing good grooming:

This is the way we wash our face...
 This is the way we put on our clothes...
 This is the way we brush our teeth...
 This is the way we comb our hair...
 Encourage children to add other verses...

*There are Many Things That I Can Do—
 All By Myself*¹

(Make up your own tune) Words and music by
 Miriam Drury

There are many things that I can do
 All by myself
 I can _____ (encourage children to call
 out things they can do by themselves, such as:
 put on my shoes, and tie my shoes, wash my
 face and dry my face, clear the table, and
 wash the dishes)
 All by myself.

Faces - by Pat Clinger²

Sometimes my face looks grumpy.
 Sometimes my face looks mad.
 But the times I like the best,
 are the times I'm feeling glad.

Sometimes I'm feeling frightened,
 Sometimes I'm feeling sad.
 But the times I like the best,
 are the times I'm feeling glad.

¹Presbyterian Board of Christian Education. ©1935. Used by permission of the Westminster Press, Philadelphia, Pennsylvania.

²© 1971 by Graded Press.

CULMINATING ACTIVITY

Now that the children have gotten to know themselves and others better, have each child's body traced again as in Activity Number 1. This time have all the children tell all the things they like about the child who is being traced. Record on the butcher paper close to the body outline, label and display. Invite parents and other kindergarten children to view.



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RESOURCES FOR THE TEACHER

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Let's Be Enemies, Weston Woods Studios, Inc., Weston, Conn. 96880

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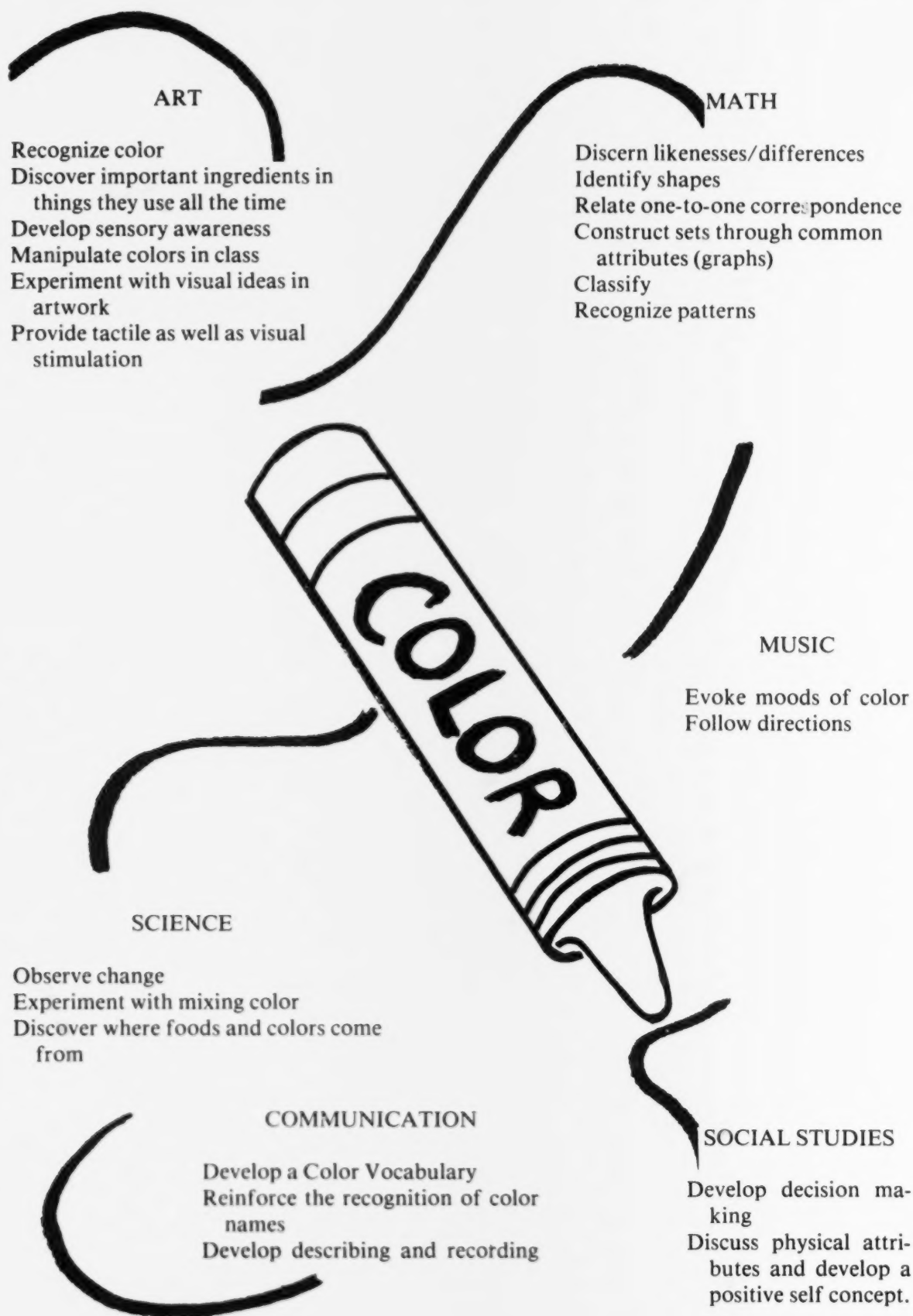
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Fun and Fitness for Primary Children, B2057, Bowmar Records, Glendale Calif.

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Songs to Grow On-American folk songs among others-Folkways Records



COLOR

Rationale

A unit on color is basic to the kindergarten curriculum, since it is a large part of the visual world for both the child and adult. Rarely do we describe our environment without using color terminology. Literature abounds with references to color. Color activities and possibilities are numerous and lend themselves especially well to the Language Experience Approach.

CONCEPT LEARNINGS

To develop the child's:

- Awareness that people use color words when describing their world.
- Awareness that authors use color words in their writings.
- Understanding that when some colors are mixed together they make a new color.
- Ability to classify objects by color.
- Awareness of cause and effect.
- Visual awareness and recognition of the importance of color.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand and use color vocabulary.
- Recognize that there are many words which describe the shades and hues of color.
- Comprehend the terms, *light* and *dark*, as they pertain to color.
- Hypothesize, observe, describe, and share his thinking with the group.
- Dictate a story using his own words.
- Recognize that he can write his own books.
- Organize ideas and information.

SELECTED VOCABULARY

red	blue	green	yellow
purple	brown	black	white
pink	hue	shade	dark
light	bright	dull	

ATTITUDES

As a result of this unit, the child will:

- Express an increased interest in color.
- Examine critically the results of his own work and that of others.
- Cooperate in efforts to share and maintain equipment.
- Be willing and able to listen and talk with his peers in a group setting.
- Understand that everyone has likes and dislikes and these opinions need to be respected.

INTRODUCTORY ACTIVITY¹

Create a color saturated mini-room by furnishing a large carton, which is big enough to crawl into, with nature items, upholstery and textured cloth, toys, and other equipment of one specific color. Indicate to the children that they will be learning about colors with a new color being presented every three days (more or less time may be specified, depending on the children's sophistication and experience with color). Read a piece of literature related to the color being studied for that period of time.

Designate a section of the bulletin board, label it according to the color, and have children place labeled art work, cut outs, and stories in that particular section; add other sections as additional colors are investigated.

EXAMPLE OF ACTIVITIES WHEN FOCUSING ON ONE COLOR

1. Wear the color being studied and ask parents to have children wear that color to school if at all possible.
2. Provide scarves of the designated color for those unable to wear it.
3. Arrange a display of objects in the color, drape it with cloth of the same color and label.
4. Make a poster of objects of the color being studied.
5. Read stories and poems about the color.
6. Paint and do art projects with only that color.
7. Write/dictate group charts, books, etc., about the color.
8. Sing songs and play records about the color.
9. Label everything that is the designated color.

Note: Many children think color is an object. Be alert to emphasize that it is an attribute.

OTHER ACTIVITIES

1. After reading *A Rainbow of My Own* and having the children recall the events of the story in sequence, ask the children to select their favorite color, make a book cover of the same color, write and illustrate an "I Like . . . (color) Book."
2. Read *Red is for Apples*. Have children discuss the colors, objects, and rhyming words presented in the story. Follow-up by writing/dictating group poems about color.
3. Provide children with a collection of any two color of buttons, being sure to include both large and small buttons of each color, and two small boxes for sorting. Start the activity by holding up a button, and having the children describe its shape, size, color and number of holes in it. Hold up a button of the other color and have the children compare it with the first one shown in terms of shape, size, color, and number of holes. Ask the children to sort the buttons in any way they wish and make as many piles as they need. Then ask them to use the small boxes and make two piles only. Encourage the children to use attributes other than color.
4. Have one child select a color and say "I spy something green" (or a color of his choice) and add one clue at a time until someone guesses the right object. For example, "It is round." "It will bounce." When a child guesses the object correctly, that child picks an object and the game continues while interest remains.

¹Adapted from: Flemming, B., Hamilton, D., and Hicks, J., *Resources for Creative Teaching for Early Childhood Education*.

5. Have one child name a color and have the others walk to a place where they can touch something which is the color named. When in the gym, adapt this game to color tag.
6. Having available pieces of different colored chalk, the teacher draws as directed by the children. For example, the first child says "I like a blue sky" (The teacher draws it). The next child must repeat what the first child said and adds something he would like to see in the picture. The third child repeats the statements of children one and two and adds his own. This continues until the picture is complete. Label each part of the picture and have the children dictate a group chart which presents what each child said.
7. Read *Hailstones and Halibut Bones*. After discussing some of the similes and metaphors, have children share their favorite color, and break them into groups based on their color choice, to write/dictate additional metaphors and similes on color. When each group has completed this task, have the children share their creations with the others.
8. After reading *Caps for Sale*, show the accompanying filmstrip and have the children write/dictate an accompanying script.
9. Have a word gathering in which the children name all the things that they can think of that rhyme with color names and record on the board. For example:

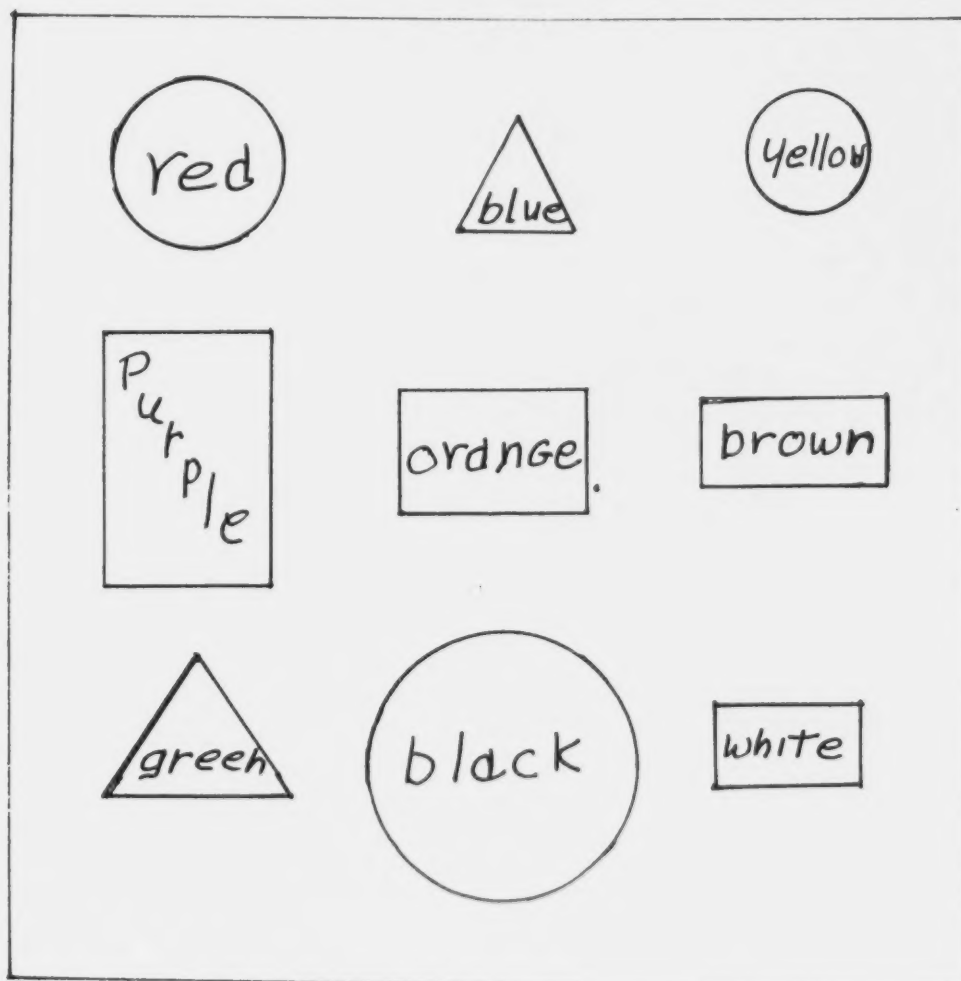
blue	Sue	true
brown	town	down
red	bed	Ted
yellow	fellow	mellow

Review the rhyming words and repeat couplets asking the children to fill in the missing word with the appropriate rhyming color word that makes sense in the sentence. Repeat such couplets as the following:

The summer grass looks so clean
When it's dressed all in _____.

10. When cooking with children be alert to have them note the colors of foods and other ingredients. Some foods (gingerbread, meats, chocolate cake) will change in the cooking process. Have them note and discuss these changes. Write/dictate a group experience chart which describes the observed changes.
11. Cut a series of small oak tag cards. Place a square, circle, or rectangle of one of the colors on one card, and the color word on another card. Have the children match the color words to the color.
12. Tack or tape paper bags to the chalk ledge. On each bag, place a color word and a geometric shape of that color. When children complete art projects have them place their scraps in the appropriate bag.
13. Before adding colored icecubes to lemonade at snack time, ask the children what they think would happen when red or blue ice cubes are added and melt in yellow lemonade. Record hypotheses on a chart. Have the children add the ice cubes (one color to each container) and observe the results. Refer back to the hypotheses chart, to see which one is correct. Record this total experience on a chart.
Variation: Have the children make colored popsicles in paper cups for snack time. Let the children create the color they want.

14. Prepare a large chart (below). Cover with contact paper or laminate. Allow two children at a time to toss bean bags as they stand about one meter away from the chart, which is taped to the floor. Players earn points by naming the color and shape on which the bean bag falls (one point for naming correct color and shape). The first one to accumulate ten points wins.



15. Have the children examine the crayons in their box and note the range of basic colors. Ask, "Which is the lightest?" "Why do you think so?" "Which is the darkest?" "Why do you think so?" Continue by presenting paint chips (available on paint charts at hardware stores) to begin to develop the concept of hues.
16. Select a color and have the children find it in objects in the classroom (clothes, books, etc.). Bring several of these objects together and have the children note that there are different hues of the same color. Follow-up activities might include: a) classifying the objects according to hues; b) making a display depicting objects which are the color being studied; c) making color books the covers of which are the color being studied.
17. Cut the paint chip strips up, placing each piece on a tag board. Have the children organize them from lightest to darkest.

18. Looking at the World Through Rose-Colored Glasses. Pieces of colored cellophane or theatrical gel taped over one or two classroom windows makes a whole new world outside — a world where some colors are very bright and others seem to disappear. This is an excellent way to call attention to color in the environment. Try to plan some "Window time" when you and a few children discuss what a certain color does to the things outside.

Variation: The same type of observations occur with simple toy "sunglasses." Cut the frames from cardboard and tape or glue various colors of cellophane behind the eye-holes. Make a number of them and have the children choose how they wish to view the world each day.



19. Take a green color walk and have the children collect leaves, grass, pieces of shrubs (be careful not to destroy) and bring them back to the classroom. Discuss the hues of green. Organize from lightest to darkest. Have children experiment with paints to make the basic green lighter or darker. Record on a group experience chart.

Adaptations of the above include:

- Invite older students to go on the color walk to act as secretaries and record each child's discoveries. Have the older children transfer their recordings to chart paper. Use with the children to review the walk and enhance vocabulary development.

green trees	green bottle
green grass	green house

- Give each child a color chart to take on his walk and use to identify specific hues of green:

avocado - green leaf
mist - green water
olive - green fence

20. Give the children only one of the three primary colors with which to finger paint. As they become involved in their projects, hand out the remaining primary colors and suggest that they add them to their paintings. Encourage discussion about the color changes. Dry the finger paintings and have the children use them as motivation for individual stories which describe the experience.
21. Gather a number of clear, plastic, pill containers and red, yellow and blue food coloring. Give each child six of the containers and have them fill each one half-way. Next have each child measure and add a teaspoon of the red, yellow and blue food coloring — one color for each container. After discussion, allow the children to experiment by mixing their primary colors in the three remaining containers. Later, distribute Q-tips and white paper and have them paint a brightly colored picture. Label and display on bulletin board.
22. After the children have dyed popcorn kernels with a variety of food colors, seat everyone around a table where the electric fry pan is set up and oil is heating in it. Distribute the colored kernels, giving each child a handful which contains all the colors. Have the

children sort and classify the kernels by color. When the oil is ready, ask for the kernels by color, add to the skillet, and have the children hypothesize what color the popcorn will be when popped. Cook the popcorn. Note the exterior color (white). Eat the popcorn (one kernel at a time at first). Note the color (the dyed color). Discuss with the children. Record on a group chart. Have each child illustrate the story. Compile into a classbook.

23. Collect a number of stocking boxes or large stationery boxes; one for each child to use as he works. Line the bottoms of the boxes with colored construction paper. Have the children create scenes with the playdough. When the scene is completed and the dough is dry, spray each with a clear fixative, label, and display. The edge of the box becomes the frame of the picture.

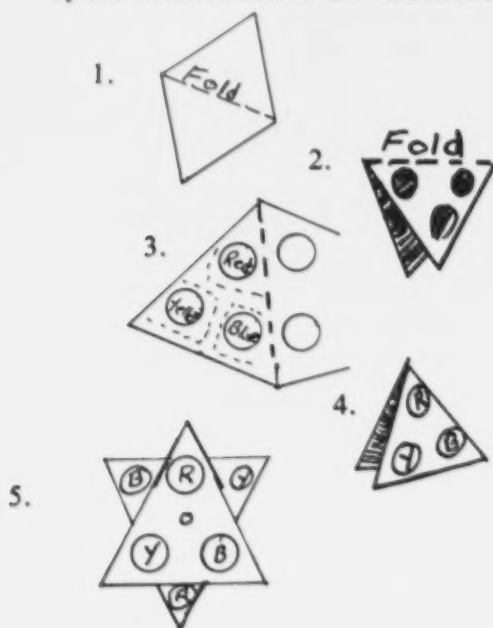
COLOR PLAYDOUGH RECIPE

500 ml flour
125 ml salt
30 ml cooking oil
water
powdered tempera or
food coloring

Mix the flour and salt and blend in the coloring. Add enough water to make a kneading consistency and then work in the oil to prevent dough from sticking to hands. Place playdough in plastic bags or airtight plastic containers and keep in refrigerator.

Variation: Have the children mix one of the three primary colors to make a secondary color and add to the dough.

24. Cut squares about 20 cm × 20 cm of colored tissue paper or cellophane and frame with sandpaper. Read *Little Blue and Little Yellow* and after discussion, have the children make secondary colors on the flannel board using the cellophane or tissue.
25. Follow these directions for making a color toy for the children. Suggestions for its use by the children follow the directions:



Cut out 2 of the shapes shown here from lightweight cardboard. Fold each one along the middle to make a triangle.

Cut a hole in each corner of each triangle as shown. Be sure to cut through both thicknesses.

Unfold the triangles and tape or glue a piece of red cellophane behind one hole of each piece, yellow behind another, and blue behind the last.

Refold and tape or glue the edges together.

Place the two triangles together, matching the 2 red holes, the 2 blue holes and the 2 yellow holes. Punch a hole through the center of both triangles and secure them with a paper fastener.

Suggestions: The children can turn the star to all the primary or all the secondary colors. If you print the name of each color near the corresponding circle, they can begin to associate the color words with the colors themselves.

Note: Art projects which relate or can be related to the study of colors are numerous. See *A Practical Guide to Early Childhood Education* and *Resources for Creative Teaching in Early Childhood* as cited in Appendix Eight for a comprehensive list of suggestions.

CULMINATING ACTIVITY

When the study of color is completed, invite other classes of children and/or the parents and siblings of the children in your room to view the "world of color." Have children write/dictate invitations. Serve colored food snacks.

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PICTURES AND CARDS

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RECORDS

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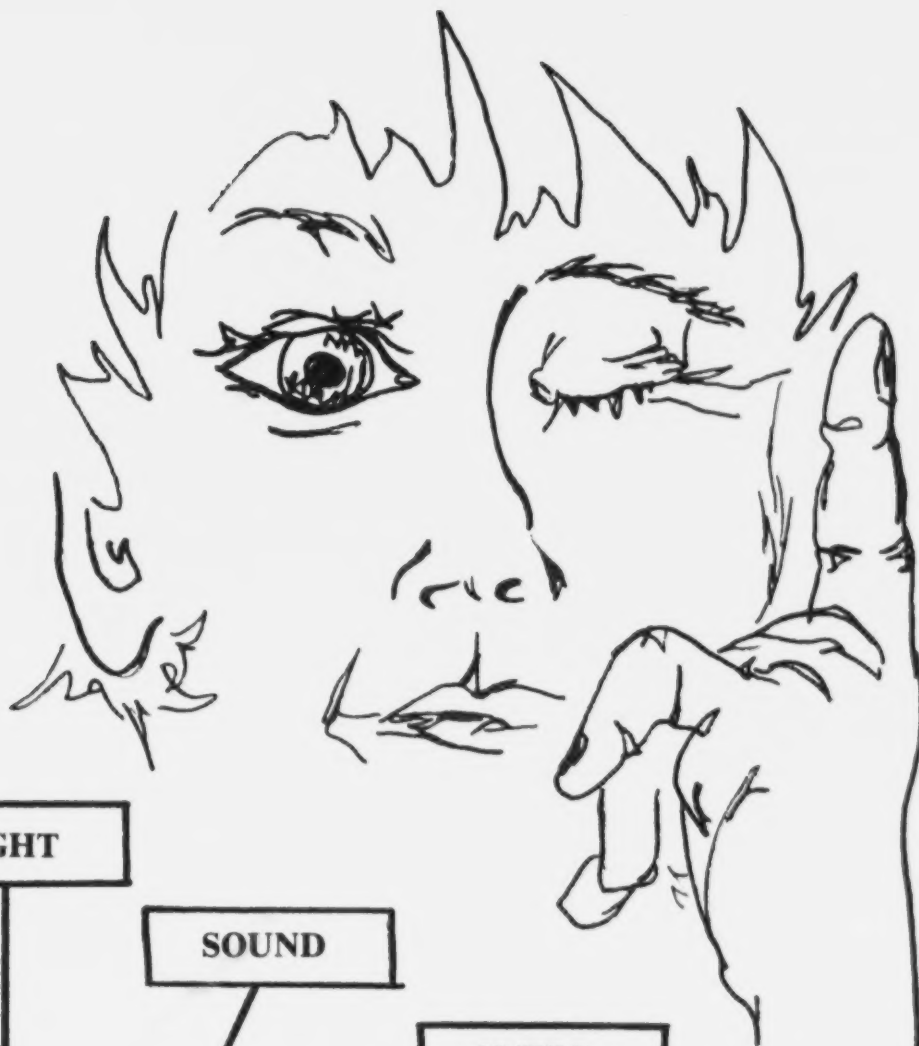
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FILMSTRIPS AND FILMS

"Caps for Sale" Weston Woods, Weston, Conn.

"Hailstones and Halibut Bones" Sterling Educational Films, New York, New York

"Harold and the Purple Cow" Weston Woods, Weston, Conn.



SIGHT

SOUND

SMELL

TASTE

TOUCH

THE SENSES

Language Development
Literature
Math
Social Studies
Science
Art
Music
Physical Development
Cooking
Field Trips

THE SENSES

Rationale

The senses are the vehicles through which all experiences and learning occur. The young child needs to sharpen his sensory perceptions on the environmental level before he can use his senses, especially sight and sound, for more sophisticated learning. In addition, exploration through the senses provides opportunities for first hand experiences which enrich concept and language learnings. Sensory experiences capitalize on the child's natural curiosity about the world around him. When utilized appropriately, teaching strategies within this area present tremendous opportunities for development of a child centered kindergarten curriculum which includes, among other things, perceptual and reading readiness skills.

Procedure

This large unit consists of five mini-units, each focusing on a separate sense. However, because of the way we use our senses, they are interdependent. Therefore, we have cross-referenced many of our activities when appropriate.

The reader will note that the format of this major unit varies somewhat from those presented earlier. In particular, we have not developed a flow chart. The learning possibilities are so vast in this area that this would be an impossible task. Secondly, learning objectives and vocabulary are presented within each mini-unit, because it is felt that this would be a more efficient and effective approach for this unit.

INTRODUCTORY ACTIVITY

To introduce this unit on the senses, explain to the children that we have five senses: *sight*; *smell*; *hearing*; *touching*; and *tasting*. Explain further that we: hear with our ears; see with our eyes; touch with our hands; taste with mouths, and smell with our noses.

Next distribute a marshmallow to each of the children. Ask them to use their sense of sight, look at the marshmallow, and describe its size, shape, and color. When this information is shared, ask the children which sense they used to get this information and what part of their bodies they used. Record on board: We used our sense of sight. We see with our eyes.

Ask the children to hold the marshmallow to their right ear and listen, then to their left ear and listen. "*Can you hear anything?*" "*Which sense did you use?*" Elicit the response: *We used our sense of hearing. We hear with our ears*, and record it on the board.

Continue in a similar fashion to introduce the remaining three senses, recording after each exploration. Conclude the activity by reading *The Sensible Book: A Celebration of Your Five Senses*.

TOUCH

CONCEPT LEARNINGS

To develop the child's ability to:

- Understand that learning takes place through the sense of touch.
- Recognize that there are times when it is safe to touch and times when it is not.
- Realize that different things feel differently.
- Comprehend that when we describe things we tell how they feel.



LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand and use touch related to vocabulary.
- Talk in complete sentences.
- Discriminate between the terms alike and different.
- Share his ideas about touch.
- Listen and share in a group situation.
- Recognize and make letters and numerals.

SELECTED VOCABULARY

hard
smooth
coarse
stringy
sharp
cold
fluffy
gritty
fuzzy

soft
scratchy
slimy
crinkly
wet
silky
bumpy
velvety
grainy
dry

rough
spiny
slick
hairy
warm
prickly
spongy
lumpy
furry

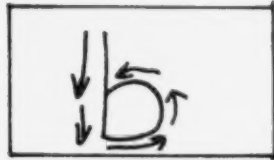
ACTIVITIES

1. Make a feeling library by gathering shoe boxes and placing items of varied textures inside. Cut a hole in front for reaching in and a trap door in back to use as a peep hole for checking. This activity may be done independently or with a partner. In the latter, one partner touches and describes how the object feels; the other tries to use the clues and guess what the object is.
2. Arrange a varied collection of fabrics for children to handle, name, and describe by color, design and texture. Have them classify the material in contrasting groups or like groups.
Note: Often you can obtain varied fabrics by asking for alteration remnants at the tailor shop or for a sample catalogue at fabric shops.
3. Encourage the use of a variety of media in art: finger paints, clay, paper-mache, crayon resist. Ask questions of the children as they work to encourage their use of descriptive terms.¹
4. Have children make crayon rubbings on textured surfaces (cement block, grave stones, bricks, textured wall paper, coins) and share their rubbings letting the others guess what they rubbed to get the impression. Label each rubbing and place in a class book.
5. Provide two jars of the same color finger paint; one with rice and the other without. Have the children describe the difference in feeling as they create their art projects.
6. Using the approach suggested in activity 1, have the child make and label a picture of what he touched.
7. Provide a variety of textured scrap materials (silk, velvet, satin, sandpaper, wire, cotton balls, seeds, rice, pine needles, flannel, wood chips, paper, and gravel) and have the children make a collage. In discussing their collage with others, record the vocabulary used.
8. Give each child a piece of poster paper and a piece of some kind of texture. Have him describe the texture in terms of how it feels and recall other things that have a similar feeling. Record the words, phrases and sentences used and have the child paste the object on the paper. Combine each child's project into a class book.²
9. Using the above approach, have the child react (at different times) to a different texture. Combine each separate page to make an individual book.
10. Collect a variety of textures and pass around as music or drums are played. When music stops, select children to describe the texture they are holding.
11. Take a feeling walk and have children pick up objects of varied textures. When back in the classroom, have each child describe how his favorite object feels. Record each adjective used. After descriptions are completed, classify the object according to texture and record on a chart.
12. When working with mud, sand, and water, encourage the use of descriptive vocabulary by asking open-ended questions.
13. When cooking, develop the understanding that this process changes the texture of food. Macaroni, apples, and vegetables are excellent examples.

¹Allen, R., and Allen C. *Language Experiences in Early Childhood*. Chicago: Encyclopedia Britannica Press, 1969.

²Eliason, C., and Jenkins, L. *A Practical Guide to Early Childhood Curriculum*. St. Louis, Mo.: The C.V. Mosby Co., 1977, p. 162.

14. Place sand, coffee grounds, or cornmeal in the lid of a box top. Give children a set of alphabet letters to use as a model and have them make letters. If they are ready, encourage them to name the letters and list words that begin with that letter.
15. Make sandpaper letters for children to trace and feel. Provide pipe cleaners for children to bend and twist into letter shapes.
16. Make alphabet letters, with arrows, indicating the directions to be used in forming the letter, on individual laminated cards. Place in the writing-center for children to trace and use as a model for writing.



17. Have children trace letters on a partner's back. Partner is to identify the letter and name something that begins with that letter.
Note: Approaches described in activities 14, 15, 16, and 17 can be adapted and used for numerals.
18. After a discussion on the need to be aware that there are some objects that are unsafe to touch, have children brainstorm items that are unsafe and make illustrated booklets entitled "Things That Are Not Safe To Touch."
Note: You may wish to extend the concept of physical feeling to emotional feeling. Many pertinent activities are suggested in the *ME* unit.

SIGHT

CONCEPT LEARNINGS

To develop the child's ability to:

- Understand that learning takes place through the sense of sight.
- Recognize that light is essential for us to see.
- Realize that things can be magnified.
- Understand the value of observing closely.
- Recognize that there are a variety of shapes in the world around us.

LANGUAGE CONCEPTS

To develop the child's ability to:

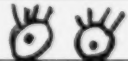
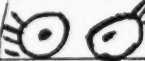
- Use sight related vocabulary.
- Match letters and words.
- Discriminate letters and words.
- Make letters and words.
- Understand that each letter of the alphabet has a different shape.

SELECTED VOCABULARY

round	letter
circle	word
square	eyes
rectangle	vision
triangle	color words
magnify	transparent
attribute	line
clear	enlarge

ACTIVITIES

1. During a group session, have the children put their hands over their eyes (no peeking) and ask if they can see anything. Have them uncover their eyes and discuss why they thought they were unable to see. Endeavor to elicit the fact that we need light to help our eyes to see. To draw this response from the children, you might also ask them to recall other times when they could not see (at night, in the dark, when their eyes were closed, in fog).
2. Follow-up the activity by making a graph depicting the number of eyes in the classroom, and the number of eye colors. Record on a chart.

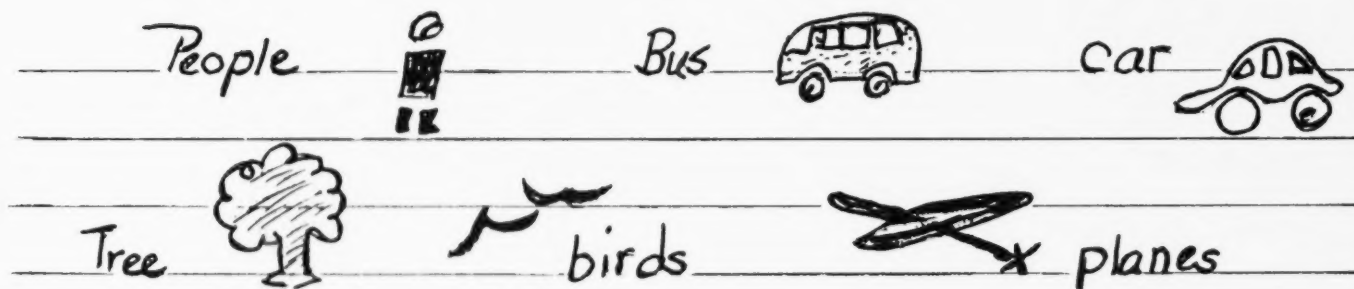
blue	grey	brown	green	hazel
				
				

3. Elaborate the value of sight and our eyes by blindfolding a child and placing varied objects (one at a time) in his hand. See if he can identify the objects. Repeat with several children and elicit the fact that it is much easier for us to identify objects when we can use our eyes to look at them.

This activity can be varied by: a) placing objects in a feely box, and, b) having one child identify another by touch alone.

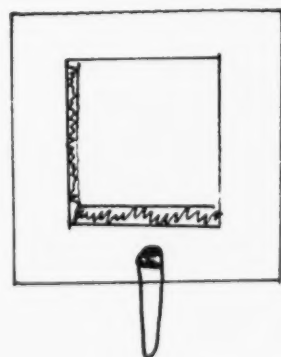
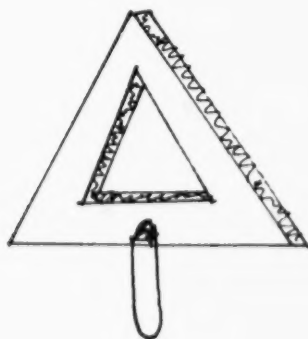
4. Have each child select a partner to look at for 20-30 seconds and then have him list all the attributes he noticed. Record on a chart labeled with the child's name.
5. Collect transparent and opaque objects (bottles, glasses, jars, plastic wrap). Have the children look through these. Do objects look the same or different when looking through each material? Why do you think they look different? Label things in the classroom that are translucent or opaque.
6. Collect a variety of objects (rocks, shells, seeds, insects) and have children look at them through a magnifying glass. What did they notice about these objects when using the magnifying glass? Record on an experience chart.

7. Assign children in shifts to go to the window of an active area and look out for about five minutes. Have them join the larger group to share what they saw and graph according to the following categories.



Repeat this activity while interest remains.

8. Place 5 or 6 attribute blocks on a table. Let a child look at them for 10 seconds. Have him close his eyes as you take one away. Then have him recall which block is missing and describe it.
9. When cooking, alert the children to notice the difference before and after. Good experiences in observing change are provided when cooking, for example: Jello, bacon, pancakes, applesauce. (See Cooking unit for additional ideas.)
10. Collect a number of objects in which children can see themselves. After experimenting with these, brainstorm ideas about other things in which we can see ourselves (puddles, pond, plate glass, etc.) and list on a chart. Give the chart a title.
11. Discuss the parts of the eye. Ask an eye doctor to loan a model of the eye. Ask the eye doctor to come in and talk about the eye and how it works.
12. Before taking a shape walk, make shape glasses by cutting shape outlines from tagboard and pasting them on popsicle sticks. These will help the children to remember the shapes they are to look for.



After the shape walk, have children list the names of objects they saw which were made up of circles, triangles, squares, and rectangles. Record on a chart. Count the number in each category. What did we see more of? Less of? The same?

13. Cut variously shaped pieces of paper and have children paste them on a piece of drawing paper. Distribute matching shapes which have been cut smaller than those first distributed. Have children match the shapes and paste onto the background.¹
14. Place objects of various shapes on a table. Have children classify and record their classifications.
15. Make book covers of various shapes and have the children draw and label an object which is representative of that shape on each page.
16. Cut a variety of shapes in a variety of sizes, have children arrange these shapes to make a "picture" of an animal, person, object. Label and write/dictate a story about this creation.²
17. Place laminated cards containing straight lines and circles in the writing center for children to trace as an aid in developing the motor skills necessary for making letters.
18. Place paper of all sizes, lined and unlined, and a variety of colored writing tools in the writing center. Have the children make straight lines and circle designs.
19. See activities number 14, 15, 16 and 17 in the touch portion of this unit for suggestions on making letters and numerals.
20. Construct letter shaped book covers and cut paper to correspond. (The outline of the book should represent the shape of the letter in the alphabet). Give children a collection of magazines and newspapers and have them cut out and paste the letter which belongs in their book.³
21. When working with experience stories, provide opportunities for children to match letters and words in context. Also, see specific suggestions in the *Reading Readiness Activities and Language Experience* section of this guide, pages 65-69.

¹Eliason, C. and Jenkins, L., *A Practical Guide to Early Childhood Curriculum*. St. Louis, Mo.: The C.V. Mosby Co., 1977.

²Allen, R. and Allen, C., *Language Experiences in Early Childhood*. Chicago: Encyclopedia Britannica Press, 1969.

³Ibid.

HEARING

CONCEPT LEARNINGS

To develop the child's ability to:

- Understand that learning takes place through the sense of hearing.
- Distinguish between loud and soft sounds, high and low sounds, and sounds in the environment
- Recognize that sound travels through things.
- Realize that sounds are made by vibration.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand and use sound related vocabulary.
- Listen attentively.
- Follow directions.
- Match beginning sounds of words.
- Identify the beginning sounds of words.
- Hear and identifying rhyming words.
- Realize the joy, beauty, and fun of language.

SELECTED VOCABULARY

noisy	crunchy	whistling
rhyme	quiet	unpleasant
screech	low	high
loud	soft	vibrate
rhythmic	pleasant	roar
tone	whisper	mutter

ACTIVITIES

1. Identify familiar sounds: Use a tape recorder and microphone to record a variety of familiar sounds: door closing, egg beater, electric mixer, water running, shower going, frying bacon, dishwasher, washing machine, lawnmower, an airplane going overhead, pop corn popping, telephone ringing, doorbell, dog barking, etc. Identify sounds as the tape is being played back. Then try for recall. Children can do this themselves with a tape recorder.
2. Have children lie quietly on a mat and listen for sounds around them — encourage them to identify and name the things which make these sounds. This activity is effective indoors and outdoors.
3. Read the poem "Go Wind" by Lillian Moore on a windy day and have the children go out and listen to the sounds made by the wind. When inside, dictate a group story about this experience.

4. Recognizing sounds: Use a bag with a variety of noisemaking objects: bell, rattle, whistle, etc. Have the children cover their eyes, or teacher could go behind a screen and make a sound with one of the objects. Ask children to identify it. When children have familiarized themselves with the sounds, use two sounds, and ask if the sounds are the same. Children can play this game themselves.
5. Repeat sound sequence: Use a noisemaking object - the sticks from rhythm instruments are good - tap a simple rhythm, and ask child to repeat it. Introduce sounds the children can make themselves - clapping, stamping - the pattern can increase in difficulty as children progress.
6. Say something to the children in a soft voice, and ask the children to tell you if you were speaking in a loud or soft voice. Say something loudly, and ask how you were talking. Ask them to say something softly. Ask them to say something loudly. Talk about the need for loud and soft voices at different times. Different objects can be used to further illustrate this: triangle with soft tone, party horn, loud, etc.
7. Record the kind of foods children bring to school for snack or lunch — crunchy celery and carrots, crisp vegetables, and how they sound, when they are chewed.
8. Borrow a stethoscope, have children listen to the heart beat while role playing doctor.
9. Hearing rhythm in music: Have children clap to the beat of music. Children can also clap to the rhythm of their own names: Ma-ry requires two claps.
10. After listening to a record, allow children to move to express their feelings or mood. Add scarves or light pieces of material they can wave as they move.
11. Use rhythm band instruments for exploring different sounds—loud and soft; high and low.
12. Make some shaker musical instruments. A milk carton filled with beans, and taped securely closed, makes a good shaker. Oatmeal boxes or No. 10 cans can be used for drums.
13. Play following directions games. A variety of objects is needed. Start with two directions: shake the rattle and put on the blue scarf. Ask a child to do this. Continue giving a variety of two directions. Add more directions when the children are ready.
14. **Sounds are made when something vibrates.** Have the children put their fingers very lightly on their throat, near the bottom. As they talk, have them feel the vibration on their throat. Let them touch their lips while humming. Describe what is happening. Feeling vibrations in things - Materials needed: one or more wind-up alarm clocks, kitchen timer, music box, any motor-run school equipment, aquarium air pump motor, record player, water cooler, comb, waxed paper (cut to fold over teeth of the comb). Pass unwound clock, timer, and music box among the children. Ask if they feel these things are vibrating or making a sound. Wind the equipment, and pass it around again. "*Now what do you feel?...hear?*" Experiment with the comb and waxed paper. Hold the paper at the bottom of the comb lightly between the lips. Try to hum and blow a tune at the same time. Child should feel vibrations. See how many other things in school vibrate — motors, record player, etc. Relate this vibration to whistling — how many children can already whistle.
Read, *Whistle for Willie* and discuss the sounds Willie made.

15. Sound travels through many things: Air, water, solid objects. **Air:** Use a 30 cm piece of plastic garden hose. Have child put one end next to the mouth and the other next to the ear. As he whispers his name into the hose, ask if he could hear himself. What causes vibration? Let him hold his hand at the end of the hose and say "Toot," "tut." He should be able to feel something pushing on his hand.

Variation: If you can get some long golf-club tubes, children can speak to each other through them.

Water: Materials needed: Two similar containers, e.g., plastic buckets; a pair of blunt scissors; sponge, plastic sheet, or newspaper for spills; golf club tube cut into 30 cm lengths. Half fill one of the containers with water and suggest child press one ear to the side of the bucket and listen to the sound made. Open and shut scissors to make a steady clicking noise, holding them inside the empty bucket. Then do the same thing in the water filled bucket. Have child describe if they are louder or softer in the water. Put the golf tube in the water, then put the ear at the other end to listen. Explore if the sound is louder coming through the air or through water. Let children do this for each other.

Solid Objects: Make some sounds on a table top. Talk about the sound made. Have child cover one ear with his hand and press the other ear on the table top. Make similar sounds on the table top. Ask whether the sound was louder through the air or through the table top. Play a game by putting ears to the table and closing eyes. A child can take a turn tapping on the table with objects, and others guess what he used. Use a variety of objects.

16. Label shoe boxes with each letter of the alphabet. Add a picture of a common object beginning with that letter. Inside the box place five or six objects beginning with the letter. As you take them out, name the objects. Encourage children to recognize that they all start with the same sound, and it is the letter on the box.
17. Identifying and grouping objects beginning with the same sound is a valuable activity. Label shoe boxes with upper and lower case letters of the alphabet. Children can sort a variety of pictures by the beginning sounds, and place in the proper shoe boxes. Encourage children to say the name of the picture.
18. Hearing rhyming sounds and matching rhyming objects is fun. Use a box with a lid and a collection of small toy objects with rhyming names: Tire, wire; hook, book; shell, bell; fork, cork; cane, plane; mouse, house.
- Make a mat (cardboard) approximately 15 cm × 22.5 cm marked off into 6 sections of 7.5 cm. Have the child take out all the objects, and name them. Ask the child if the names of any two of the items rhyme. Teacher might give child an example of two that do rhyme and two that do not. If he can hear the rhyming sounds, he can place two on each square of the mat.
19. Use poetry with rhymes for reading time, along with books. At group time, encourage children to make up their own rhymes — children like silly verses that have no real meaning. Songs are also good for this purpose.
20. When working with experience stories, provide opportunities for children to develop auditory discrimination and phonic skills. Specific suggestions are presented in the *Reading Readiness Activities and Language Experiences* sections of this guide, pages 65-69.
21. Read *Fast-Slow, High-Low, A Book of Opposites*: take time for the children to enjoy the absurdities presented and discuss the opposites cited in the story. Have children write/dictate and illustrate their own book of opposites.

22. After reading *The Secret Birthday Message*, which elaborates upon the need for listening and following directions, ask for a volunteer and give three simple directions to follow in order. Children watch as these directions are carried out. Then ask for a pair of volunteers, one to give a different set of directions, and the other to carry them out. Continue while interest remains.
23. Read *Drummer Hoff* or another book containing repetitive sentence patterns. Have the children chant the familiar repetitions as you read the story.
24. Read or tell the story *Three Billy Goats Gruff* using appropriate vocal inflections, tone, and pitch. Have the children join in unison on the parts they know.
25. Read *The King Who Rained* or another book containing homonyms, pausing after each page is read to laugh and talk about the double meanings. When the story is completed have the children recall the homonyms they enjoyed most. Record on a chart and illustrate.
26. After reading *Swimmy* or another book well reputed for its value in triggering experience stories, have the children recall the content of the story and write and illustrate a book about fish.
27. Read *The Camel Who Took a Walk* and ask children for the words in the story which were of most interest to them. Record these words in a class or individual notebook and place in the writing center.
28. Read the poem "Cliche'" and have the children identify comparisons stated in the poem. Have them extend the poem's idea to their own language by illustrating the following similes:

as warm as____ as soft as ____
as quiet as____ as quick as____
29. After reading selections from *Tongue Tanglers* encourage children to make up their own tongue twisters. Place in a class book.
30. Read selections from Bennet Cerf's *Riddles*. Have the children listen and guess the correct response. Encourage them to make up riddles which they then ask of each other. Select favorites and record in a class riddle book.
31. When introducing or reinforcing initial phonemes, select books which use alliteration, and/or onomatopoeia to read orally. Children love and respond to these books. A really fun way to refine phonics and auditory discrimination! (Tongue twisters serve a similar purpose in a delightful way.)

¹In: Merriam, E. *It Doesn't Always Have to Rhyme*, New York: Athencum Publishers, 1966.

LITERATURE TO ENHANCE LANGUAGE: ITS JOY, BEAUTY AND DEVELOPMENT

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Shhhhh Bang, Brown, New York: Harper and Row, 1943.

What Is That Sound? O'Neil, New York: Atheneum, 1966.

II. Rhythm and Rhyme

Chicken Soup With Rice, Sendak, New York: Harper and Row, 1952.

Horton Hatches the Egg, Seuss, New York: Random House, 1940.

May I Bring A Friend? DeRegnier, New York: Atheneum, 1964.

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There Was An Old Woman, Kellogg, New York: Parents Magazine Press, 1961.

Year Without a Santa Claus, McGinley, Phil., Penn.: J.B. Lippincott, 1957.

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A Bug To Hug, Barry, New York: Young Scott, 1966.

Ask Mr. Bear, Flack, M., New York: MacMillan, 1932.

I Can't Said The Ant, Cameron, New York: Coward-McCann, 1961.

Millions of Cats, Gag, W., New York: Coward-McCann, 1928.

Mommy Buy Me A China Doll, Zemach, New York: Follett, 1966.

Something Special, deRegniers and Schneck, New York: Harcourt Brace and Jovanovich.

The Judge, Zemach, H., New York: Farrar, Straus and Giroux, 1969.

The Piggy in the Puddle, Pomerantz, New York: Macmillan, 1974.

Three Billy Goats Gruff, Asbjornsen and Moe, New York: Harcourt Brace Jovanovich, Inc., 1957.

IV. Homonyms

Amelia Bedelia, Parish, New York: Harper and Row, 1963.

Chocolate Moose for Dinner, Gwynne, New York: Dutton, 1962.

Funny Bone Ticklers in Verse and Rhymes, Jacobs, Champaign, Ill: Garrard, 1973.

The King Who Rained, Gwynne, New York: E.P. Dutton, 1970.

V. Opposites

Gaggle of Geese, Meriam, New York: Alfred A. Knopf, 1960.

Fast-Slow, High-Low: A Book of Opposites, Spier, New York: Doubleday, 1972.

Push, Pull, Empty, Full, Hoban, New York: Macmillan, 1972.

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The Most Beautiful Word, Vasiliu, New York: John Day Co., 1970.

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It Does Not Say Meow, DeRegniers and Schneck, New York: Seabury, 1972.

Riddles, Cerf, New York: Random House, 1960.

Riddle Me Riddle Me, Ree, Leach, New York: Viking, 1970.

The Nonsense Book of Riddles, Duncan, New York: Four Winds, 1970.

X. Books to Encourage Dictation

Crictor, Ungerer, New York: Harper and Row, 1958.

Danny the Dinosaur, Hoff, New York: Harper and Row, 1958.

Harry the Dirty Dog, Zion, New York: Harper and Row, 1956.

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Rufus, Ungrer, New York: Harper and Row, 1961.

Sammy the Seal, Hoff, New York: Harper and Row, 1959.

Swimmy, Lionni, New York: Panthenon Books, Inc., 1963.

TASTE

CONCEPT LANGUAGE

To develop the child's ability to:

- Understand that learning takes place through the sense of taste.
- Experience different tastes through varied foods.
- Realize that he and others will not have the same taste likes and dislikes.
- Understand that there are some things which we should not taste.
- Recognize that taste and smell are closely related.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand and use taste related vocabulary.
- Talk in complete sentences.
- Discriminate between the terms alike and different; like and dislike.
- Listen and share in a group situation.
- Share his ideas about tastes.

SELECTED VOCABULARY

bitter	color	different
same	shape	sour
lemony	fishy	awful
favorite	foods	salty
size	smell	sweet
juicy	spicy	good

and a variety of other words typical of the young child.

ACTIVITIES

1. Set up a tasting party and introduce the foods to be tasted. Name and make a written label for each food and encourage the children to bring others from home. Include, if possible, foods exemplifying the four basic tastes: sweet (honey, candy); sour (lemon); salty (pretzels, nuts) and bitter (vanilla extract). Provide plastic spoons or tongue depressors for non-solid foods. Encourage the children to sample each item. Provide time for the children to compare and contrast their reactions. They may also want to tell about the smells they noted. In concluding the activity, have the children put the foods into the four basic taste groups. Record on a classification chart.
2. Talk with the children about foods they like and dislike. Use a sentence starter to encourage the use of complete sentences e.g. "I like (dislike) to taste ____." Encourage children to add conditional phrases when appropriate e.g. "because," "especially," "if," or "when."
3. Have the children cut pictures from magazines of foods they like and dislike to make a collage. Label all collages.

4. Encourage children to share an ethnic or regional food with their friends. Add responses to the likes and dislikes chart.
5. Play "Guess the Taste" by having one child describe a food and the others guess what it is.
6. Have the children talk about ads they have seen on television or heard on the radio which describe foods. Do they feel the same way about the products? Discuss why such claims are made. Perhaps a good starting point would be the numerous cereals and their varying sugar content; a simple graph could be made to illustrate the different levels with a cut-out from the cereal box next to each.* Children at first will need a colored, picture clue, but later will learn the labels as sight words.
7. When doing a cooking activity, allow the children to taste as many of the ingredients as possible. Also, discuss their color, odor, size, and shape. When the activity is completed, taste the result and once again, encourage discussion.
8. After reading the poem "Pleasant Tastes" by Ilo Orleans¹, have the children dictate a group story entitled "Pleasant Tastes."
9. Play "Remember the Tastes" game. One child begins this circle game by saying something he likes to taste. The next child repeats what the first child mentioned, and adds his own item. The game ends when an individual cannot name all the given foods in the correct sequence.
10. Blindfold a child and have him taste a sample of something such as unsweetened chocolate, salty nuts, or lemon rind. Ask him to describe it and identify it, if possible.
11. Cut small pieces of an apple and a potato. Put the pieces in a paper bag, and have each child reach in and take one piece without looking. Each child must hold his nose tightly and eat the piece. They will not be able to identify what they ate and will better understand that their nose helps them to taste food.
12. See **FOOD NUTRITION** unit and unit on **COOKING** for other activities.

Note: The teacher needs to stress the dangers in tasting just any object. Perhaps a rule can be established that children only taste something that an adult, whom the child knows, says is safe to put in the mouth. In addition, the teacher should check on the possibilities of food allergies with parents.

*See Appendix Six, "Sugar Content of Commercially Available Breakfast Cereals"

¹In Untermeyer, L. *Rainbow in the Sky*, 1963.

SMELL

CONCEPT LEARNINGS

To develop the child's ability to:

- Understand that learning takes place through the sense of smell.
- Recognize that different things have different odors.
- Recognize that when we describe many things we tell how they smell.
- Appreciate the fact that some odors are pleasant and others are not.
- Realize that taste and smell are closely related.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand and use smell-related vocabulary.
- Talk in complete sentences.
- Listen attentively.
- Write/dictate an original poem.
- Differentiate between the terms alike and different, like and dislike.

SELECTED VOCABULARY

dusty	soapy	peppery
leathery	dirty	good
sweet	minty	lemony
bitter	awful	clean
new	nice	rosy
fishy		

and a variety of words typical of the young child.

ACTIVITIES

1. Collect different ingredients with distinctive smells (mint, flower petals, sawdust, leather, onions, cinnamon, pepper, etc.) and place a small quantity in separate plastic pill containers. Punch holes in the top of each container. Ask children to close their eyes and take turns smelling each container and describing what the odors are like. Have them guess at the contents. Record the descriptive vocabulary used on an experience chart.
2. Have the children recall all the smells they remember. Find which they liked and which they didn't like. Record on a chart "Smells we like, Smells we don't like." Have each child select his favorite smell, illustrate it and dictate a story. Combine individual drawings and stories into a class book.
3. Place a variety of smell ingredients into a nontransparent container. After the children have had an opportunity to describe the odor in the container they are holding, use these as rhythm band instruments e.g., play or sing a favorite song and ask the children holding a container with a specific smell to shake it in time to the music.
4. Take the children on a smelling walk through the school. When back in the classroom have them talk about the odors they experienced. Record these on a chart and count the number of odors experienced.

5. Take the children on an outdoor smelling walk. After discussing the outside odors experienced, have them compare them to inside school odors. How were they alike? How were they different?
6. Taking field trips to the bakery, florist, the woods, pet shop, farm, would develop the understanding of the variety of smells in the environment. Plan a mural to focus on the odors experienced on each trip, have them work on the related segment of the unit.
7. After reading the story *Follow Your Nose*, show the accompanying filmstrip without the cassette. Have the children write/dictate a script for the filmstrip.
8. After brainstorming smell vocabulary, read "Smells (Junior)" by Christopher Morley¹. Review the children's list of words, and have them create a group poem about smells.

Note: The sense of smell and taste are interdependent. Call attention to the cooking odors when doing the activities suggested in that unit.

CULMINATING ACTIVITY

Split the class into five groups each one representing one of the senses. Have each group write or dictate a play which focuses on why their specific sense is important in our daily lives. Invite upper grade children or parents and siblings to the play. Have the children write or dictate the invitations and make the scenery for the play.

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DECEMBER HOLIDAYS



WRITING

Recording their favorite things
Seasonal Sense
Christmas Cards
"December Dreams"
Bulletin Board



LISTENING

"My Favorite Things"
Bell Patterns



ORAL LANGUAGE

Guess What's Inside Game
Finger Plays
Rhymes



ART

Rudolph Card
Making Ornaments: color
a. Pom Poms
b. Styrofoam Icicles
Sponge Painting
Ripped Paper Wreath
Wrapping Paper



MUSIC

Little Drummer Boy
Making Rhythm Instruments
Traditional Christmas and Hanukkah Songs

MATH

Shapes Mobile
Patterns: a. Paper Chains
b. Attributes
Playing with and Making Dreidels
Numbers: a. Trim a Tree
b. Number Pockets
What's More

READING READINESS

Sequencing
Rebus
Retelling a Story
Rhymes
Matching Words
Christmas in Letterland
ABC Gingerbread Faces

GROSS MOTOR

Sock Skate
The Light Fantastic Dance

SOCIAL STUDIES

Christmas Cards Travel through the Mail
Hanukkah, the Feast of Lights
Merry Christmas to the Birds

SCIENCE

Cooking: a. Gingerbread Faces
b. Potato Pancakes
c. Latkes
Making Candles

DECEMBER HOLIDAYS

Rationale

The December holidays of Christmas and Hanukkah provide many opportunities for fun and exciting activities in the classroom. Numerous crafts and projects are undertaken at this time with the underlying themes of self-accomplishment and gift-giving. A feeling of cooperation also develops as the children work together to make their room festive and to plan their party. Although it is difficult for the children to understand the history of these holidays, they can still delight in the traditions of making decorations and gifts, singing songs, listening to seasonal literature, and experiencing many other things which help to create the wonderful spirit of the season.

CONCEPT LEARNINGS

The child will understand:

- That Christmas and Hanukkah are celebrated in different ways with different activities.
- The meanings of several Christmas and Hanukkah symbols.
- How to make patterns using size, color and shape.
- That everyone has different likes and dislikes.
- That substances change, and those changes can be observed.
- That gift making and giving are fun and rewarding.
- How mail is delivered.
- That the beliefs of others need to be respected.
- That sounds can be repeated or changed.

LANGUAGE LEARNINGS

The child will develop the ability to:

- Use descriptive words.
- Recognize the sequencing of events.
- Understand how to dictate a story using words and sentences.
- Experience good listening skills.
- Recognize that letters can be capital and lower case.
- Comprehend that stories are read from top-to-bottom and from left-to-right.
- Listen to and retell stories.
- Distinguish rhyming words.
- Match letters and progress to matching whole words.
- Hear likenesses and differences in beginning sounds.
- Experience and recognize color and number words.
- Supply endings to sentence-starters and stories.
- Use his senses to learn new things (i.e., cooking).
- Classify by two or more attributes.

SELECTED VOCABULARY

bells	big	candle
carols	celebration	chimney
Christmas	circle	colors
decorations	different	down
dreams	dreidel	favorite
gift	gingerbread	Hanukkah
inside	instruments	latke
left	less	lights
little	more	menorah
numbers (cardinal and ordinal)	open	ornaments
right	presents	reindeer
Santa Claus	Rudolph	same
sharing	secrets	shamash
stocking	square	star
under	tree	triangle
wrap	up	wax
	wreath	

HANUKKAH, THE FEAST OF LIGHTS

Background Information

This Jewish holiday which comes in late November or December celebrates religious freedom for the Jews. Candles are lit each night in a special candleholder called a **menorah** (meh-NOR-ah) with places for nine candles. The smaller candle in the middle is called the **shamash** (SHAH-mush) and is lit first and then used to light the others. The candles are placed in the menorah on the right hand side first and move to the left each day with the required number of candles. Then they are lit left to right beginning with the new candle. Forty-four small candles are needed for the eight-day festival as each night new candles must be used.

Gifts are given to Jewish children at the beginning of the holiday or one each night. It must be remembered that Hanukkah is not the Jewish Christmas; Christmas is a Christian holiday, and Hanukkah is a Jewish holiday. It is difficult for young children to understand the deeper meanings in these holidays, but they can learn the names of the celebrations and some activities and customs associated with them. It is important for all children to realize that not everyone believes the same thing and the beliefs of others need to be respected.

Invite a Jewish guest to further explain the holiday of Hanukkah and bring some of the objects used in their celebration (menorah, dreidel, etc.) Have children discuss their new learnings. Record on a group chart.

INTRODUCTORY ACTIVITY

The following rhyme and the follow-up activities should serve as an excellent source of motivation for this unit.

The Postman Said¹

The postman said,
"This is for you!
So put it under the tree."
I took the box,
I said, "Thank you."
Then yelled, "A box for me."

My mother said,
"It is for you!
Now put it under the tree."
I turned the box.
I sniffed the box.
I shook it quietly.

My father said,
"Yes, it's for you.
Come out from under the tree."
I rubbed the box.
I hugged the box.
I thought, "What could it be?"

Follow-up activities for poem above:

1. Gift wrap a box that contains a surprise brought from home or found in the classroom. Have the children sit in a circle and pass the box from one to another, shaking, turning, sniffing. Make a list of all their guesses on chart paper or on the board. Have a different child every day open the surprise and show it. How many children made the correct guess.
2. Have an individual think of an article which could be wrapped as a gift, and give clues regarding shape, size, color, weight, use, etc. Invite the others to guess the gift.
3. Gift wrap several empty boxes of different sizes and shapes, and arrange them on a table. Have a child choose one and ask him, "What gift could be in your box? Tell us about it." Encourage the child to name and describe the gift. The box is placed back on the table and another child has a turn.

¹Reprinted with permission of the Publisher Allen Raymond, Inc., Darien, Conn. 06820. *Early Years*. December, 1976. p. 58.

4. Have the children clasp a beat and recite a chant while an empty, wrapped box is passed around with the following:

I Have a Box¹

Boxholder: "I have a box."

All: "I have a box."

Child to boxholder's right: "What's in the box?"

All: "What's in the box?"

Boxholder: "A ____ is in the box." (Names something.)

All: "A ____ is in the box."

Boxholder: "Now you have a box." (Passes to child on right.)

All: "Now you have a box."

Continue while interest remains or until all have had a turn. Each child names something different that might be in the box.

ACTIVITIES

1. Use rhymes and finger plays to help children appreciate the joy of language and enrich their vocabulary.

"Santa"²

When Santa comes down my chimney, (show downward motion with hand)
I should like to peep. (make circles with thumb and pointer finger)
But he'll never come, no never, (shake pointer finger)
Until I'm fast asleep. (pretend to be asleep)

"Christmas Tree"³

I'm a little Christmas tree. (make triangular shape with arms slanted at sides)
Glittering, glittering, merrily. (hands moving in air)
A star at my head (point above head)
Gifts at my feet, (point to floor)
And on all my branches, candy canes sweet. (show arms)

"Ten Tiny Reindeer"⁴

(Dance fingers and thumbs on table)
Ten tiny reindeer ready to go;
Ten tiny reindeer pawing in the snow.

¹Reprinted with permission of the Publisher, Allen Raymond, Inc., Darien, Conn. 06820. *Early Years*. December 1976. p. 59.

²Hurd, Helen, *Teaching in the Kindergarten*. Minn., Minn.: Burgess Publishing Co., 1955, p. 146.

³Ibid.

⁴Ibid, p. 140-141.

(wave right thumb in air)
Rudolph has a shiny nose;
He decides which way the sleigh goes.

(tap finger on table)
Dasher and Dancer paw with their hoofs.
They're in a hurry to get to the roofs.

(hold fingers apart in the air)
Prancer and Vixen held their antlers high;
At Santa's signal, they're ready to fly.

(rest pointer and middle fingers on table)
Comet and Cupid patiently stand;
They're the quickest of Santa's band.

(wave little fingers in air)
Donner and Blitzen, jingle bells to say,
"Children, listen, Santa's on his way."

(hold up left thumb)
And who should be bringing up the rear?
But number ten, a tiny new reindeer.

"Christmas is Here"

Here is the wreath that hangs on the door.
(make a circle with arms over head)

Here is the fir tree that stands on the floor.
(make triangle with thumbs and forefingers)

Here is the book from which carols are sung.
(palms touching and facing upward like book pages)

Here is the mantle from which stockings are hung.
(place one bent arm over the bent arm in front of body; drop one arm like a hanging stocking)

Here is the chimney that Santa comes down.
(make upright rectangle with thumbs as base and fingers for sides)

Here is the snow that covers the town, (fingers flutter down)

Here is a box in which is hid
(close right fist with thumb inside and place left hand on top)

A Jack that pops up, when you open the lid.
(lift left hand up and pop out thumb)

"Children's Christmas Tree"

Here's the children's Christmas tree (make triangle with thumbs for the base and the fingers forming the peak)

Standing straight and tall.

Here's the pot to put it in (cup hands together)
So it will not fall.

¹Flemming, B., Hamilton, D., and Hicks, J., *Resources for Creative Teaching in Early Childhood Education*. New York: Harcourt Brace Jovanovich, Inc., 1977. Reprinted by permission of the publisher. p. 303.

Here are two balls bright and gay (make circles with thumb and index finger of each hand)

One ball — two balls — see? (hold up to see)

And two tall candles red! (hold index fingers straight for candles)

To trim our Christmas tree. (repeat triangle for tree)

2. Play the song "*My Favorite Things*" from *Sound of Music* or read the lyrics. Have the children draw a few things mentioned in the song which are their favorites. Some children can also write down the letter indicating the beginning sound or try to spell the word if they prefer (invented spellings should be accepted). Some may want to dictate a few sentences about their favorite things as well. How many favorites can everyone remember from the song? List them all. How many children chose them as their favorites? Make a tally and graph. A chart can be made of children's favorite things not mentioned in the song. Each child's favorite thing is written on oak tag for him for his word bank. Encourage discussion emphasizing differences and likes and dislikes.

Variation: Read *The Night Before Christmas* to the children and have them discuss the "Dreams" the children have in the verse, "while visions of sugar plums danced in their heads." Ask what they might dream about on Christmas Eve; is it a favorite thing they might like to receive from Santa? Record favorite things stated by the children. Follow-up with a discussion in which children compare their ideas of favorite things. What was the funniest one, or the scariest one?

Make a bulleting board entitled "December Dreams" or "My Favorite Things" in which children draw a favorite thing and tell and/or write it. A boy and a girl can be shown sleeping with all the pictures of their "dreams."

3. Have the children listen to bell patterns (long and short rings) and ask an individual to reproduce the sounds made. Start with quite easy patterns and work up to progressively more difficult ones. If there is a commercial "Buzzer Board" in the classroom, this can be used, too. Perhaps children can use the Morse Code and "Sound out" letters and even spell some words.
4. Use the following sentence-starters (or make some of your own) in a group brainstorming session. Some children may be able to handle them on a written copy independently. Also have each child illustrate his favorite responses.

SENTENCE STARTERS

At Christmas time I see...

At Christmas time I hear...

At Christmas time I taste...

At Christmas time I touch...

At Christmas time I smell...

Santa got sick Christmas Eve and...

I ran to see what was in my stocking
but...

There were some reindeer tracks out-
side my door and I found...

I left Santa some...

Once the children become proficient at supplying endings for single sentences, expand to stories. Read the beginning of *Corduroy* and ask the children how they think the story will end. Some may choose to illustrate.

5. Making their own Christmas cards to share with friends and family members is enjoyable. Bits of material, trimmings, old wrapping paper, and construction paper are a few materials which can be used. As further explained under the Social Studies section in this unit, children enjoy going to the post office and actually mailing their creations! The cards can have messages which the children dictate to their teacher, or they may write their own if they wish; again, invented spelling should be accepted. Concerning the child's attempt at spelling, it is often more enjoyable for the recipient of the card to see the child's own endeavors!
6. Cooking in the classroom is a very exciting activity, and numerous learnings take place, many of which are related to science. In cooking, children have an opportunity to predict outcomes and observe changes. Language experience opportunities are also numerous. Before the cooking experience, record the children's hypotheses about the outcome of the activity and how the various ingredients might change. After the cooking experience, have the children share their reactions to the finished product and how they helped to create it. This is also an excellent time to have children recall the sequence of the steps involved. All of this language output can be dictated and recorded. Recipes related to Christmas and Hanukkah are plentiful. A few are presented here.

a. Gingerbread Faces for Christmas¹

Day 1: Make dough

1. Wash your hands
2. Put in mixing bowl:
 - 10 ml ground ginger
 - 5 ml cinnamon
 - 125 ml firmly packed light brown sugar
 - 7 ml salt
 - 160 ml soft margarine or butter
 - a few ground cloves
3. Mix well. Then, beat the batter until it is light and fluffy. Perhaps each child can take turns beating the batter ten times.
4. Add 1 egg. Beat again.
5. Add 187 ml molasses. Beat again.
6. Add:
 - 750 ml all purpose flour
 - 5 ml baking soda
 - 5 ml baking powderMix slowly so that the flour doesn't fly up in the air. Each child can take turns mixing.
7. Cover and refrigerate overnight.
8. Clean up.

Day 2: Bake cookies

1. Wash your hands.
2. Take dough from refrigerator.
3. Turn on the oven to 190° C. An adult should do this and all other steps involving use of the oven.
4. Grease the cookie sheets with margarine.
5. Take small pieces of dough and roll them into balls the size of walnuts. Perhaps each child can make two to three balls.
6. Roll each ball into a bowl of sugar.

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7. Place the balls on a cookie sheet about three to four inches away from each other. Flatten each ball with a flat-bottomed glass. This will turn the balls into circles or faces.
8. Press raisins into the faces for eyes and mouths.
9. Bake for 8 to 10 minutes, or until well done.
10. Clean up.
11. Check to see if they are done.
12. Remove with a spatula and let them cool.
13. Eat with milk for snack and share some with others. Makes about 3 to 4 dozen faces.

b. Potato Pancakes (Latkes) for Hanukkah¹

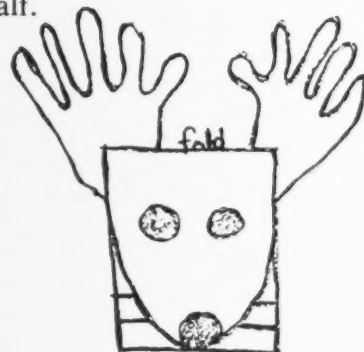
8 potatoes
 10 ml grated onion (optional)
 2 eggs
 160 ml regular all purpose flour, unsifted
 7 ml salt
 vegetable oil

Peel the potatoes and grate very finely. There should be about 1.5 liters grated. Add onion (optional), eggs, flour, and salt. Mix well. Heat oil in skillet or electric frying pan until it is hot, but not smoking. Drop the batter by heaping spoonfuls to make small pancakes, one or two for each child. Fry until crisp on both sides. Drain on paper towels. Serve hot with applesauce. (Note: You will need to experiment with the different steps in this recipe to see which ones the children can assist with. Some may be able to use a potato peeler; others may be able to use the grater, but some may have trouble with both these tools. Divide the tasks so that all children can participate. Be sure the children stand away from the frying pan so they do not get splashed with hot oil. Potato pancakes, while not specifically a Hanukkah food, are a Jewish speciality).

7. Making candles is a fun craft for children, and the candles make a beautiful gift. Children watch a solid cake of wax melt, and gradually see the wax take on a solid form again. A hot plate can be used in the classroom, with the supervision of an aide or a parent, to make candles. Two children at a time can be involved in this project. Safety rules, of course, need to be reviewed beforehand. The fact that hot wax can be very dangerous must be emphasized.
 1. Each child cuts off the top from a 250 ml milk carton and rubs cooking oil on the inside surfaces.
 2. One bar of paraffin wax is melted for each child.

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3. A birthday candle (Betty Crocker Brand is recommended) is held in the center of the carton, and then crushed ice is used to fill the carton.
 4. Hot melted wax is poured over the ice to nearly fill the carton. Glitter may be added.
 5. Place the carton on a paper towel (with each child's name on it.)
 6. Twenty-four hours later, rip off the milk carton over the sink, and allow the candles to remain draining and drying before wrapping.
8. A study of how Christmas cards travel through the mail* offers a variety of opportunities for activities both in and out of the classroom. Children can create Christmas cards and take a field trip to the post office to mail them. They can see mail being sorted and probably loaded onto a truck. They can be told of all the other steps: mail traveling by plane to other towns, then by truck to other post offices, and finally being delivered. The children also learn the correct way to address an envelope, have the actual chance to print one by themselves, have the opportunity to buy a stamp and mail their own card. Two classes could visit the post office together for more fun. Names could be drawn previously so each child would receive someone else's card.
 9. Read a poem about winter and birds to the children and have them "wonder" about all the things mentioned about the birds. Discuss the true meaning of Christmas, doing things and sharing things with others. What might they be able to do for the birds during the winter months? It is important for children to understand that during this season some animals need special care. A bird-feeder may be made from a four liter sized plastic milk jug or an economy-sized bleach bottle; cut out two sides so the birds can fly through. The feeder needs to be weighted with small stones, then filled with birdseed, stale doughnuts or bread, and strings of Cheerios. Suet can be melted and mixed with birdseed, too; this mixture can be poured into margarine tubs, aluminum pie tins, or half walnut shells. (nuts and seeds, in addition, could be put out for squirrels, and leafy vegetables, beans, and carrots for rabbits.)
 10. Make a Rudolph card for mom and dad. Supply children with a brown piece of construction paper 10 cm x 30 cm. Have them fold it in half. Next, instruct them to cut one end to resemble a snout. Scraps of construction paper are available for the children to add eyes, nose, antlers, neck band, etc. Antlers may be made by tracing one's hands. All these are pasted on the card, and a message is printed inside.
 11. Making Pompons and Styrofoam Icicles are fun.
 - a. **Pompons** — Children will love making pompons for the tree or to tie to a package. A group of three to four children at a time is a good number to work with as some children will need a fair amount of assistance. Give each child a strip of cardboard about 5 cm



*An excellent resource for teachers and children: *Let's Find Out Series*: "What Happened to the Christmas Card that Billy Mailed Joe?" New York.

wide. Each may choose one or two balls of yarn and begin winding the yarn around the cardboard. They may make the pompons as "fat" as they wish and slip the yarn off the cardboard. A piece of yarn is tied around the middle very tightly, and this is how the pompon is attached to the tree. All the loops are cut and the ends are "fluffed out" to make a thick pompon.

b. Styrofoam Icicles — Styrofoam packing pieces of all shapes and sizes are needed for this activity. A long piece of yarn, cut plastic straws, and large sewing needles are also needed. Thread the needle with the yarn and tie a knot in the end and start with a styrofoam piece. Alternate straw pieces with the styrofoam. When each strand is completed, tape the end with a piece of scotch tape and add the child's name; after the Christmas party, each child may take his decoration home.

12. Sponge painting is popular. Use different combinations of tempera paint colors, perhaps red and green for Christmas colors, and blue and yellow for Hanukkah. Small pieces of sponge are dipped into the paint, and designs are made on large sheets of paper. Glitter may be sprinkled on the final product.
13. Ripped Paper Wreaths are pretty. Each child may cut out or be given an oak tag doughnut shape. Bits of green construction paper are ripped and pasted on the wreath. Red ripped bits may be used for berries and a bow.
14. Making wrapping paper can be an effective activity.
 1. Have oaktag shapes of stars, candy canes, trees, bells, etc., available for tracing. They may overlap and make interesting designs to be colored.
 2. Spatter paint green and red tempera on white paper, or vice versa.
 3. Have some printing tools such as vegetables, fruit, wood, sponge, or cork shapes precut by the teacher into Christmas designs. Newsprint works well; a pad of paint-soaked paper towels can be used instead of a tray of paint, as too much paint may be used in the latter case.



15. Constructing a shapes mobile is easy. Provide large oaktag circles, triangles, and squares, and have on hand old Christmas cards. Children trace the three different shapes on red, green, and white construction paper and cut them out. After selecting six Christmas cards, they paste these to the front and back of each shape. Punch holes at the top of each shape. Use yarn to join the shapes to make the mobile.



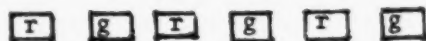
16. Children love to make patterns of all kinds. The first activity, a very traditional one, asks the child to concentrate on color alone. The second pattern activity focuses on shape, size and color.

a. **Paper Chains** — The classroom can be prettily decorated for the holidays by the use of paper chains. The children gain a great deal of satisfaction with knowing they did this all. Paper strips of red, green, and white* construction paper are passed out to the children; some may want to begin with just a two-color pattern which repeats. Others may be able to handle three colors. Some children will need a lot of help getting their chains started and making circular links instead of "tear drop" links. Great delight comes in connecting individual chains. Whose chain is the longest? Can they explain their pattern? After the party when the chains are taken down, children can count a certain number of links, break the chains, and take a portion home.

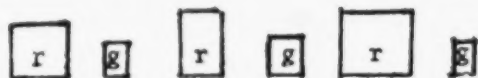
b. **Attribute games** — The following activities strengthen visual discrimination ability and classification skills. Give each child a set of three 5 cm and three 10 cm circles cut from red construction paper. Make an identical set out of red felt. Make a pattern on the flannel board which alternates large-small-large-small, and have the children copy the pattern on a white paper strip on their desks. They may paste the shapes on, if desired, to preserve the pattern. Another fun activity is stringing the shapes on yarn with cut plastic straws as dividers.

*Royal blue and white are used as Hanukkah colors.

Give each child four each of the following paper shapes: red 2.5 cm squares, red 7.5 cm squares, green 2.5 cm squares, and green 7.5 cm squares. (Identical circles and/or triangles may be added to increase the level of difficulty.) Also supply each child with several long strips of white paper. Ask the children to arrange their shapes so that squares differ in **color** only. For example, the following pattern would be acceptable (all the same size squares):



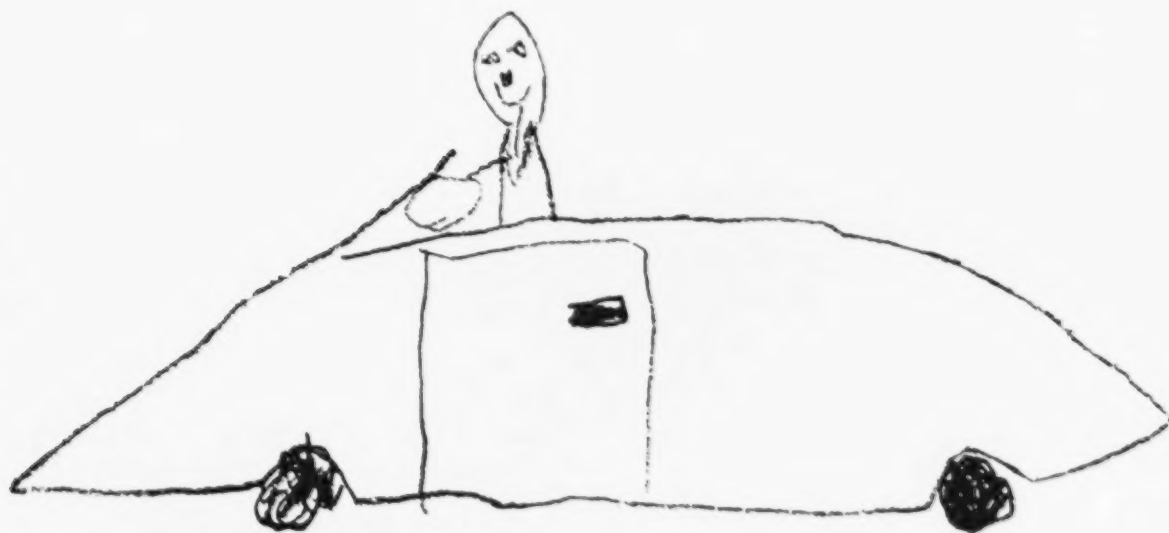
Then challenge the children to make a pattern with two different attributes, for example, color and size. An acceptable pattern would be:



The children also have fun copying another child's pattern or continuing a pattern someone else has made. Green and red balls, cubes and cylinders can be taken from the "bead bucket" (an excellent lesson in classification itself!), and patterns can be strung. Children love swapping strings and continuing one another's patterns. (Children again may paste their shapes on the white strips to preserve their patterns, string them on yarn, or make a collage of their shapes on a large sheet of white paper.)

17. Make dreidels for Hanukkah (pronounce dray-dull)

A Dreidel is a Hanukkah toy which is easily made and which is great fun. Follow the steps shown. Cut the strip with the four Hebrew symbols. It should just fit around a 250 ml milk container. Paste it on firmly. Be sure that the pencil you use for the dreidel has a dull point. (See following page.)



HEBREW CHARACTERS



shin



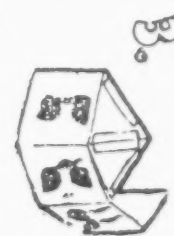
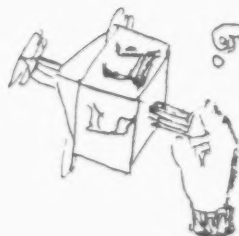
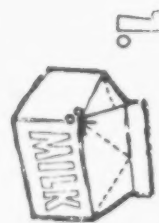
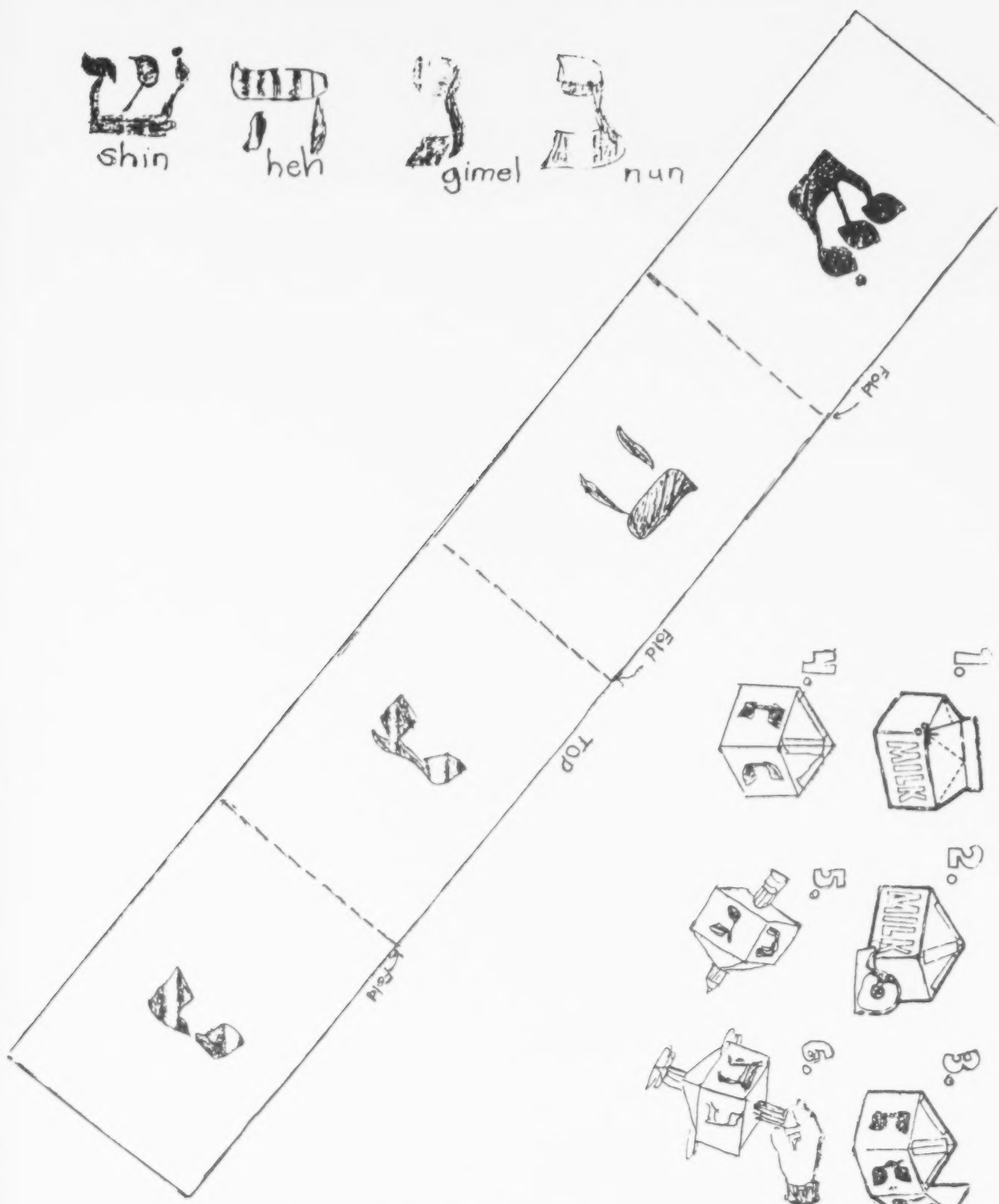
heh



gimel



nun



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Dreidel game directions: (only one dreidel or top is needed for a game). Tokens are needed or wrapped candles. To start the game, every child playing puts in a token. In turn, each child spins the dreidel and plays for the tokens. If the letter **shin** appears, he must put an additional token in the pile. if **heh** appears, he receives half the tokens. If the letter **gimel** faces up, the child wins all the tokens, but if **nun** appears, the child receives none.

The Driedel Game Is Fun To Play' (tune: "This is the Way")

The dreidel game is fun to play,
fun to play,
fun to play.
The dreidel game is fun to play
On Hanukkah in the morning.

The "shin" turns up,
You put one in,
Put one in,
Put one in.
etc.

The "heh" turns up,
Then you get half,
You get half,
You get half.
etc.

The "nun" turns up,
Then you get none,
You get none,
You get none.
etc.

"Gimel" turns up,
Then you get all,
You get all,
You get all.
etc.

b. Poem

Twirl about, dance about
Spin, spin, spin!
Turn, dreidel, turn -
Time to begin!
Soon it is Hanukkah -
Fast, dreidel, fast!
For you will be still
When Hanukkah's past.

¹Fleming, p. 273. Reprinted by permission of the publisher.

18. Trim a tree with numbers. Pin green felt Christmas trees on a bulletin board. Add white construction paper rectangles to represent tree stands. On each stand, print a different number with a different colored crayon (use all eight basic colors with the numerals 1 through 8). Also pin to the board a paper sack filled with different colored felt circles; the child places the correct number of colored ornaments on each tree.

Variation: Print the number and the color word all in black on each stand; for example, 6 blue or 3 red.¹

19. Number Pockets are an easy activity. Prepare an oaktag holder with a varying amount of pockets (perhaps 1-5 or 1-10). Write the numerals in left-to-right order on the pockets, draw or paste pictures corresponding to the numbers. Make several sets of the cards and pass them out to the children; they take turns telling how many items are on their cards using complete sentences. For example, a child may say, "I have four ornaments", and he places the card in the correct pocket. (It is a good idea to also write the numeral on the back of each card to make this self-correcting activity). Ideas for cards which are to be drawn include a menorah with varying numbers of candles, a snowman, presents under a tree, and berries on a wreath.²
20. Draw a Christmas tree shape on each of ten cards. From cloth or felt, cut out small decorations and paste a different number of decorations on each tree. Put one card on the chalkboard ledge and spread the others on a table nearby. Ask a child to find a tree that has more decorations than the one on the ledge; he may place this card by the first one. Ask another child to see if there is another tree which has more decorations than the last tree selected.³

Variations:

- a. Use menorahs with 0-9 candles instead of the Christmas tree shapes.
- b. Ask a child to find "less" instead of "more."
- c. Have the cards numbered on the back, and have a child order them correctly.
- d. With two sets of cards for Christmas and Hanukkah, have a child find the "same" amount of tree decorations as candles.
- e. Draw twelve pictures corresponding to the items in *The Twelve Days of Christmas*. Paste the pictures on oaktag and laminate. On the back write the numeral and the word (to be learned as sight words by some children) for each picture. Scramble all the pictures on the chalk-ledge, and after the story has been read and/or sung, have individual children come up to rearrange each picture correctly. Have them respond to questions such as, "Are there more rings than drummers?" "Are there fewer maids or French hens?"

¹Reprinted with permission of the publisher Allen Raymond, Inc., Darien Conn. 06820. From the December, 1976 issue of *Early Years*, p. 62.

²Reprinted with permission. *Early Years*. December 1974. p. 68.

³Ibid. December, 1977. p. 72.

21. Play Sock Skate. The children enjoy this activity, which requires them to listen, follow directions, and learn directional concepts. Each child brings an old pair of socks from home and puts them over the ones he or she is wearing. Play a record suitable for skating and have the children form a large circle with plenty of room for all to move. Ring a bell and tell the direction in which the children are to skate: for example, "skate to your left," or "skate backwards." Ring the bell often to change the direction.¹
22. Dance "The Light Fantastic." This is a simple Jewish folk dance danced to the music of the hora (readily available on records). The children are in a circle formation:
 1. Step right with the right foot.
 2. Place the left foot behind the right foot.
 3. Step right with the right foot.
 4. Tap the left foot close to the right foot.
 - 5-8. Reverse steps 1-4.
 9. Step right to center and swing arms forward
 10. Tap the left foot close to the right.
 11. Step back on the left foot and swing arms down.
 12. Tap right foot to left side.
 - 13-15. Stamp three times in place (right, left, right).²
23. Sequencing is an important skill. To give children practice in telling a story in the correct order, learning left-to-right progression, and looking for picture clues, the following activity can be used. The pages of stories from paperback books or magazines (two copies often are needed) can be torn out, mounted on oaktag, numbered on the back, and laminated. Even pages from a coloring book can be colored and prepared in the same manner as above, or drawings can be made with the accompanying text. The cards can be read and shown to the children with an explanation about the numerals on the back. Children enjoy scrambling the cards and placing them on the chalkledge for a friend to unscramble in the correct order.
24. Choose a favorite holiday song, story, or poem and make a rebus for the children. First read the song, story or poem in its entirety to the children; good listening is encouraged. The story, poem or song is then discussed - *What happened? In what order? What characters were involved, etc.?* A rebus is then distributed to all children (see example). The teacher reads and shows the children the words as she reads them (an overhead projector is especially useful here) stopping when she comes to a missing word. The children follow along, discuss the missing word(s), and decide what to draw in the appropriate space. Children need to listen well to know what to draw and where to draw it. This

¹Reprinted with permission. *Early Years*. December, 1977. p. 76.

²Ibid. December, 1974. p. 44.

activity helps them see that a story is read from top-to-bottom and from left-to-right. They will be very much inclined to share their completed stories and "read" them aloud.

Example of Christmas Rebus

Direction: "Draw pictures for the missing words."

Rudolph, the red-nosed _____

Had a very shiny _____

And if you ever _____ him,

You would even say it glowed.

"Did you draw three pictures?"

25. Reading and discussing a story and then having the children retell it is an excellent exercise which requires remembering the main idea, supporting details, and the correct sequence of events. Flannel board figures can help the child remember a story, organize his thoughts, and provide motivation.

Good holiday stories which can be used include the following (the teacher can, of course, create her own or adapt any stories to be used for flannel board work):

Barry, *Petunia's Christmas*

Miller, *Mousekin's Christmas Eve*.

Moore, *The Night Before Christmas*.

Polite, *The Nicest Gift*.

Brown, *On Christmas Eve*.

Ets, *Nine Days to Christmas*.

Freeman, *Corduroy*.

Keats, *The Little Drummer Boy*.

Lipkind, *The Christmas Bunny*.

26. Sharpen auditory discrimination skills and reinforce a child's ability to distinguish rhyming words through similar activities. Line the following pictures from left-to-right along the chalk ledge: snow, reindeer, toys, Christmas tree, and Santa Claus. Recite these short rhymes and have the children complete each blank.¹

1) This I know!

It is _____.

2) It's here!

It's a _____.

3) They're for girls

and boys.

They are _____.

4) It's lovely to see.

It's a _____.

5) He's jolly because

He's _____.

Encourage the children to join in, saying the last word of the first line and the rhyming word in the second line.

27. Matching words to sets. Cut a large Christmas tree shape from paper and have some children help paint it green. Tack it to a bulletin board. Make white construction paper ornament shapes, and, with a marker, write words, e.g., star, bell, tree, sled, and toy on the ornaments. Pin them on the tree. Also make a duplicate set of the word orna-

¹Reprinted with permission. *Early Years*. December, 1976. p. 58.

ments, and on the back of each, paste a magazine picture or drawing of the ornament. The children match their words with the words on the tree. Have them pin the ornament over the matching word so the picture side shows.¹

28. Celebrate Christmas in Letterland. Many kindergartens in this state use the Alphatime series with the "Letter People" for formal reading readiness program. A fun bulletin board for the Christmas season is one done by the children with the Letter People. First, small groups of children work together to draw pictures of the Letter People which have been introduced and tack these to the bulletin board. Then appropriate presents must be found for each Letter Person — pictures from magazines or drawn by the children — and are either tacked alongside the Letter Person or placed in a bag or a box belonging to the correct Letter Person. (For example, Mr. B would receive a **ball**, a **baking set**, a **balloon**, etc.) If the latter method is used, children can "deliver" the presents to the Letter People over and over again. The children can print the correct letter on the back of each present so this activity can be a self-correcting one.

Children also enjoy creating stories about the Letter People, especially "What if.." stories. They may choose one Letter Person to write about each day. For example, what if Mr. Z got zipped up inside Santa's bag of toys by accident, or what if Mr. N visited the North Pole? The children make up their own situations. Each story should contain many words which that particular Letter Person "likes". Following the dictation the children enjoy finding and circling these words.

29. Enjoying ABC Gingerbread Faces. This writing/penmanship activity is best done after the children have made the gingerbread faces as described in activity 6 a. The children print the correct pair of capital and lowercase letters in the appropriate boxes after the sentence has been read. As the children hear about the boys and girls in the exercise, they may want to share their feelings or perhaps how they contribute to the preparation of this snack. They may also enjoy going to the board to write their own names (or the capital and lowercase letters for the initial letter of their names) when "their letter" is being discussed. The teacher may want to change the following names to include as many of her own class as possible.

lice sked for them.

rett aked them.

hristian leaned up after cooking.

ebby abbed them with raisins.

leanor nvied the team captain.

reddie lattened the balls of dough.

ary reased the pans.

¹Reprinted with permission. *Early Years*. December, 1974. p. 63.

☐ enry ☐ ollered for the sugar.
☐ sabel ☐ gnored the safety rules.
☐ oel ☐ umped with joy.
☐ aren ☐ icked over the flour bucket.
☐ isa ☐ oved them.
☐ atthew ☐ ixed the batter.
☐ icole ☐ odded that it was her turn.
☐ live ☐ bserved the changes after cooking.
☐ am ☐ laced the balls of dough on the cookie sheet.
☐ uentin ☐ uartered the dough for the four groups.
☐ ichard ☐ emoved them with a spatula.
☐ asha ☐ aid they were done.
☐ racy ☐ ook them out of the oven.
☐ rsula ☐ rged everyone to try one.
☐ alter ☐ iped off the tables before cooking.
☐ avier ☐ -rayed them!
☐ vonne ☐ anked the plate from the table to pass them around.
☐ eke ☐ apped them into the oven!

30. Sing carols and tap out the beat. *The Little Drummer Boy* is beautifully illustrated and, of course, tells a lovely story which children greatly enjoy. The book can be read by the teacher, with all the "parum-pum-pum-pums" said by all, sung by all, or listened to on a record, while the pages are shown to the children. The beat can also be tapped out on a drum or with the use of other rhythm instruments or by clapping. Many Christmas carols can be sung in this same way.
31. **Make Rhythm Instruments.**¹ When children use instruments they can hear same and different sounds, change or repeat sounds, arrange rhythms and invent tunes. They can decide to play loud or quiet, fast or slow. They can discover that things move when they make sounds, or they "vibrate." Have them feel the vibrations of instruments while they are making music: a guitar, a triangle, a drum. When they hum, have them feel their throats vibrate. Here are a few rhythm instruments you can make:
- a. **Shakers**—Fill plastic containers or coffee cans with beans or pebbles and cover with plastic lids. (If the plastic containers are clear, children can see the objects rattling around inside when they are playing their instruments.)
 - b. **Shoebox guitar** — Stretch a few rubber bands of varying width and thickness around an empty shoebox (without lid). "Play" the guitar by setting it on a table.
 - c. **Jingle bells** — Thread some small bells on a 15 cm piece of colored telephone wire (may be bought in electronic stores). The wire is bent around to make a circle, and the ends are twisted together, then the wire ends are taped down with strong tape.
 - d. **Sand blocks** — Sandpaper is glued to wooden squares. Spools can be nailed to the other sides of the blocks for handles.
 - e. **Coffee can drum** — Both ends of a coffee can are removed and are replaced with plastic lids. Children can beat the drum with their hands or sticks.
32. Sing traditional holiday songs. Many collections of holiday songs are available on albums. Children enjoy singing old favorites over and over again. Children also like to participate in musical activity games. (See "The Light Fantastic" under the Gross Motor section in this unit.) The song, "Here We Go Round the Mulberry Bush" can be adapted to "Here We Go Round The Christmas Tree" (from the *Music Resource Book*, Lutheran Church Press). Verses such as "This is the way to chop the tree; carry it home; stand it up; put on the lights" can be added.

Children also enjoy using their rhythm instruments while they sing. It is often best for the teacher to demonstrate the use of one instrument while listening to music, and then choosing one child to accompany her. She may add more instruments and children as appropriate, as the children have learned to use each instrument individually. Children will learn that there are many ways of making music.

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HOLIDAYS ART CENTER

This unit which centers around Christmas and Hanukkah easily lends itself to the creation of an art center. Activities to include are making cards, paper chains, ornaments, and wrapping paper. These are all tasks which can be done fairly independently by the child if all the needed materials are available in the center.

Other possibilities for art activities include:

1. Easel paint (provide blue, white, and orange if concentrating on traditional Hanukkah colors, and feature red and green for Christmas).
2. Spatter paint (use the same colors as above, fold paper beforehand if it is to be used as a greeting card).
3. Stringing garlands - using large darning needles, string cranberries, popcorn, Cheerios; they may be hung outside for birds. (See "Merry Christmas to the Birds", activity 9.)
4. Playdough ornaments - have cookie cutters available to cut out decoration. If desired, they could be allowed to dry and later be placed on the Christmas tree.
5. Dreidels - As shown in activity 17, have strips of paper already printed with symbols on them. The children may paint or color the strips, cut them out, and tape them to the milk cartons.
6. Shapes - provide a variety of pre-cut shapes made from construction paper scraps for the children to experiment with. Possibilities include making a "mood picture" (the children listen to holiday music, arrange various shapes on a large sheet of paper, and at the end of the song, if they like their "creation," they paste on the shapes. If they aren't pleased with their design, they simply put the shapes back into the envelope to be used later by someone else). Another idea is to string the shapes on yarn, alternating with a cut piece of plastic straw; these garlands may decorate the tree or the room itself. Two triangles can be inverted one over the other to form the Star of David to be used as a Hanukkah symbol on a card. A large triangle can be used as a tree shape with various "ornaments" pasted on.
7. More Ornaments:
 - a. Lids such as those on Pringles cans or tubs of margarine can have a hole punched in them. Have children tie a piece of yarn or ribbon on these covers to make a hanger. Then they cut small shapes of paper, draw pictures, and paste them on, or simply have fun licking and sticking on Christmas seals.
 - b. Have individual sections from egg cartons available. Have children paint or cover with foil and attach to the tree with yarn, ribbon, string or pipe cleaners.

CULMINATING ACTIVITY

One or two days before the holiday recess (in case of a storm day!) the children can have a party to which their parents are also invited. Invitations are made by the children and are either hand-delivered or mailed at the post office. The children enjoy "showing off" their room and serving goodies they have prepared themselves. The teacher may serve tea and punch while the class performs, singing songs and doing holiday finger plays.

Note: At this time, parents may carry home their gifts which the children have created to avoid possible breakage.

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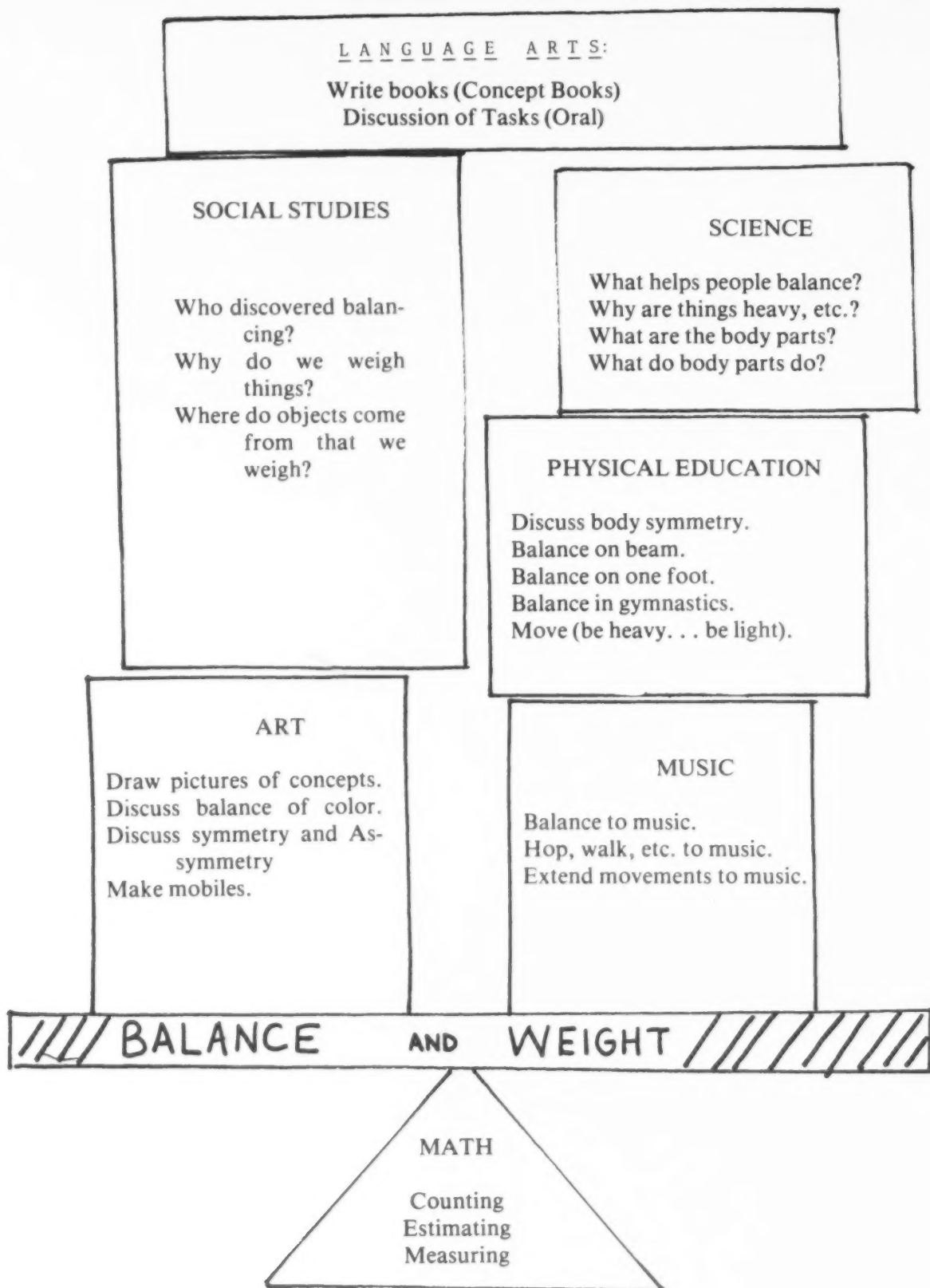
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*This book contains an extensive list of support materials, records, charts, films, etc. It is a valuable resource which should be in every kindergarten teacher's library. Reproducing the contents here would only be redundant.



BALANCE AND WEIGHT

Rationale

It is widely accepted that children learn best through the manipulation of concrete materials and through opportunities to interact with their peers. This unit presents many suggestions for hands-on activities which will aid children in their exploration of weight and balance. The activities are presented according to a sequence of difficulty which relates to the child's level of cognitive development.

Procedure

Because of the nature of the activities presented, you may prefer to set up a balance and weight center to allow for children's exploration of these concepts. We suggest that new activities be added on a gradual basis. Before placing them in the center, introduce these new activities to a few of the children and have these few children help others in their exploration.

Note: We have relied heavily on the works of Scott, Eliason and Richards, as cited in the bibliography, in preparing this unit. In many instances, their ideas have been adapted to meet our needs.

CONCEPT LEARNINGS

To develop the child's ability to:

- Understand the characteristics of weight.
- Comprehend that weight and size are different attributes each separate from the other.
- Compare objects (heavy, light, etc.)
- Realize that the terms heavy and light are relative.
- Conserve quantity.
- Conserve weight.
- Classify attributes.
- Recognize that balance can be achieved by adding or taking away a portion of the quantity.
- Understand that water has weight.
- Estimate, predict, and check.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Understand use of weight and balance vocabulary.
- Collect and record data.
- Discuss and solve problems with peers.
- Communicate his ideas about weight and balance orally and in written form.
- Speak and dictate in complete sentences.
- Follow oral directions.
- Give rhyming words using content clues.
- Supply metaphors and similes.

SELECTED VOCABULARY

heavy	even
heavier	level
heaviest	balance scale
light	more
lighter	same
lightest	less
equal	larger
weight	big
balance	weigh

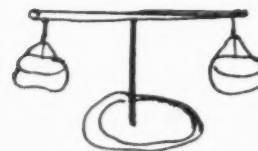
MATERIALS NEEDED

Balance (see-saw type)



Arm Balances (scales)

sand
blocks
plastic containers (to fill)
objects to weigh



INTRODUCTORY ACTIVITIES

1. Gather the children together and have ready several combinations of objects which differ grossly in weight. Demonstrate with two of the objects indicating "This one is heavy." "This one is light." Ask volunteers to hold objects, note the difference, and repeat your statements. Have the children select pairs of objects and repeat the activity.
2. Gather the children together and discuss the concept that weight is the amount that things weigh. It tells us how heavy or light things are. Weigh a few of the children. Record their names and weights. Continue by weighing several of the larger unit blocks. Record the weights. Introduce the phrases "less than," "more than," "the same as," "equal to," as they refer to weight.

ACTIVITIES

1. Collect enough Pringle (or other type) cans so that there will be two identical cans for each child. Fill only one of each child's container with rice (or any substance). Tape both closed. Have the children pick up each can, and ask them to tell you how they are alike and how they are different.
2. Collect enough 250 ml milk cartons so there will be two for each child. Fill one group of containers with sand, the other group with water. Have children hold a container in each hand. "Is one heavier than the other?" "Which one is heavier?" "Which one is lighter?" Have the children open the containers. "What is in the lighter container?" "What is in the heavier container?"
3. Fill several plastic containers (margarine tubs) placing a different material in each (pebbles, sand, rice, seeds). Cover with a lid and label containers. Have the children compare the weight of two filled containers by holding each. Record their findings on a chart. Encourage the use of complete sentences.

4. Have available a number of cardboard boxes of different sizes and shapes. Fill each with a different material. Tape covers down. Place in math center for the children to compare, balance, and record their findings.
5. Prepare a number of bags into which you have placed objects which vary in weight. Distribute the bags and have each child draw out an object of his choice and place it in a row labeled heavy or light. When all the items are classified, have the children count the number of objects in each category and make a graph, label each object and describe its attributes, and write/dictate a chart which explains the activity and the results.
6. Collect several different items and a number of small boxes of varying size. Place one item in each box and cover boxes with different colored paper or contact. Hold up two boxes and ask "Is the red one heavier than the white one?" As the children respond, ask them to explain their answer. Then have individual children take turns holding the designated boxes to check the answers given. Repeat this activity and compare other boxes.
7. Understanding that size and weight are different attributes which are not necessarily related needs to be reinforced. Have them name things in the room that they can lift and things that they cannot lift. Record on a chart. Go over the list of items which they cannot lift because of size. Things we cannot lift because of weight. (Draw responses from the children by questioning). Next select items some of which are small and heavy others which are big and light (stapler and large piece of paper) and have the children lift to compare. Record the experience on a chart.
8. Give each child five or six strings with two objects on each. Ask them to lift each one and determine which is the heaviest and which is the lightest.
9. To help children see that weight is a relative term, collect balls of different sizes and materials (tennis, golf, ping-pong, yarn, rubber, styrofoam, cotton balls, ball bearings). Have a child select two balls from the collection and hypothesize which is heavier. Lift each to check his hypothesis, and verify it using the balance scale.
10. Have children make heavy and light books by cutting pictures of heavy and light objects from catalogues. Paste them on separate sheets and label. Combine into an individual or class book.
11. Have the children make up similes and metaphors using measurement terms: Record these on a chart. e.g., "As heavy as _____" "As light as _____".
12. Distribute paper and paints and have the children make and label pictures of heavy, light, heavy and small, heavy and big, light and small, light and big items. Note: do not use all these categories at once. Focus on one at a time. e.g.,



mug = light

13. Repeat the following or similar rhymes and ask the children to tell which is heavier:

a brick or an ice-cream stick
 a snail or a bathroom scale
 a curl or a girl
 a cork or a fork

a chair or a bear
 a straw or a saw
 a clock or a sock
 a duck or a truck

14. Put three objects of different weight into a bag. Ask a child to locate the lightest object through lifting and touch, then the next lightest and finally the heaviest. Have the child place the objects on the table according to weight and discuss the experience.
15. Collect ten rocks of varying weight. Have the children select three to lift and seriate according to mass (weight).
16. Prepare arrows on which the word heavier is written and a variety of materials which vary in weight and size. Place objects and arrows on table and have the children compare two items by lifting each to see which is heavier. Next have the child place the heavier objects on the table with the arrow pointing towards the one which is not as heavy. Continue to seriate all objects.



*Use the word lighter to vary this activity and to provide experience with this term.

17. Pour varying amounts of sand into three cans of exactly the same size. Tape lids. Place in the math center for the children to seriate. Increase the number to six for seriation. Encourage the children to use the balance scale and check their ordering.
18. Gather ten to fifteen pictures of animals which vary grossly in weight. Paste on tagboard. Have children select four pictures and seriate. Gradually increase the number of pictures which the child must select.
19. After demonstrating the use of the balance scale, explaining how it works and its function, provide the children with an array of different materials and allow them to experiment on their own.
20. Layout a supply of sand, sugar, salt, flour, sawdust, rice, seeds. Have child select one material and fill one pan of a balance scale. Then have them fill the other pan with flour until the pan balances. Ask if the amount is the same. "Why is there less flour?" "What would happen if we added more flour?" Record experiment on a chart.
21. Provide sawdust and sand in equal amounts. Have the child place one in each pan of the balance. "Do the pans balance?" "Why?" "How can we make the pans balance?" Record on chart and illustrate.
22. Collect varied objects and arrange them in pans. Ask the children to guess which of the two objects in the pair is heavier and check using the balance scale. Have them record their findings.

Sample pairs include:

plastic spoon and hard boiled egg
 real banana and plastic one
 tissue and handkerchief
 rock and orange
 feather and crayon

23. Collect rocks, marbles, pencils, chalk, bottle caps, acorns, erasers, checkers, pebbles, beads, paper clips, etc., and provide a balance scale. Have the children select two types of materials, estimate how many of each it will take to balance them, and check their estimates with the balance scale.

Extensions. 1. Have the children record their experiments as follows:

<u>Estimate</u>	<u>Objects</u>	<u>Number of pebbles</u>
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scissors

crayons

2. Provide water and a variety of objects (as above) to help the children develop the concept that a liquid may have a greater mass (weight) than an equal amount of some type of solid.
24. Include a balance scale with the sand and water equipment. Encourage children to compare and balance quantities of wet and dry sand, dry sand in varied sized containers, water in varied size containers, sand and water.
25. Provide wooden blocks of various shapes (wedges, cubes, rectangles, squares, cylinders). Have the children compare the mass (weight) of different objects made of the same materials, by using the balance scale.
26. When cooking compare the same quantity of precooked and cooked foods to note possible changes in weight. Spaghetti and macaroni are excellent foods to illustrate that some foods absorb water and hence weigh more when cooked. Have children record their findings on a chart.
27. To help children internalize the concept of balance involve them in activities which help them to balance themselves. For example:
- Walk the balance beam
 - Balance on one foot with eyes open/closed
 - Balance on other foot with eyes open/closed
 - Walk on the wide side of the board
 - Walk on the narrow side of the board
 - Use their arms to gain momentum and balance when running
 - Tiptoe, hop
28. Have the children demonstrate and discuss how far they can stretch, stoop, swing before they lose their balance.
29. Have the children swing their arms, stretch and hold until they lose their balance. Discuss why this happened.
30. Relate symmetry in art to balance, and explain that if an object can be folded or "bisected" at the center, the corresponding parts will be the same. Have children fold green paper in half and cut one-half of a tree. Open their paper and note what happened.

Comment: To help children begin to grasp the concept that the shape of an object or the arrangement or ordering of things can change without causing a change in the weight, provide many opportunities for hands-on activities, which will build a foundation for internalizing conservation of weight. Do not endeavor to teach this concept directly. According to Piaget, this is totally ineffective. The child must discover it on his own.

Note: the conservation activities to be presented focus on quantity and weight. The latter is a more difficult understanding and arrives at about the age of eight. Additionally, ability to conserve weight is considered a prerequisite to the use of standard units of measurement.

31. Provide children with many opportunities to work with a single ball of clay. Allow and encourage them to roll, twist, flatten their clay. Then have the children shape the clay into its original form. Are they aware that the quantity is still the same?

Variation: Suggest that the children make a number of small objects from their lump of clay. Count these objects and return the clay to its original shape.

32. Have children place an equal quantity of margarine, peanut butter, or any food stuff that turns to a liquid when heated, and compare quantity. "Do they weigh the same?" "Is one heavier, lighter?" "Are they equal?" "Do you think they will weigh the same after one is heated and turns to liquid form?" Record children's opinions. Melt the contents of one pan. Allow the children to discuss the change, and place back in the balance pan. Compare results with the children's hypotheses. Record the experience on a chart.

Variation: Use similar approach with ice cubes: a tower of blocks or cubes as compared to the same size and number blocks in a pile.

33. Using a balance scale, ask the children to pour rice into both pans until balance is reached. Then have them remove the pans and pour the rice out of one pan, spreading it thinly on a piece of paper. Ask, "Do you think that the rice on this paper is as heavy as the rice in the pan?" "Heavier than the rice in the pan?" "Lighter than the rice in the pan?" "Why?" Pour the rice back into the pan. Ask the group to determine if the two pans balance.

MORE ADVANCED ACTIVITIES*

1. Balancing:

- a. The see-saw is a valuable tool in helping children understand that balance can be achieved by obtaining an even distribution of weight on each side of a fulcrum or vertical axis. When on the playground put two children of obviously different weight at opposite ends of the see-saw. Challenge them to find a way to balance it. When inside discuss and record the experience.
- b. Make a balance board of plywood cut $1.2 \text{ cm} \times 6.2 \text{ cm} \times 60 \text{ cm}$. and a fulcrum from a block of $1.2 \text{ cm} \times 1.2 \text{ cm} \times 7.5 \text{ cm}$. Give the children a variety of materials to use in discovering how to make the board balance on the fulcrum.

2. Standard Units of Measure.

- a. Weigh the children and record their weight. Have them find things that weigh less than they do; more than they do or the same as they do. Unit blocks and books are good to use for this activity.
- b. Provide children with nails, bolts, stones, balloons, elastics, paper clips. Have the children weigh one pound of an object of their choice. Count the items. Then have them select another. Weigh out one pound. Count the items. Compare the number of each object needed to make one pound.

CULMINATING ACTIVITY

Invite parents, grandparents, and younger siblings to the classroom to view the work completed by the children. In preparation for this visit, arrange a display of paired objects and materials which vary in weight and size. These may be used in a contest in which the visiting children are to guess which object or material in the pair is heavier or lighter. The kindergarten children are then to assist the visitors in checking their hypotheses.

*See Eliason and Scott as cited in bibliography for additional activities on these more advanced levels.

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FOOD AND NUTRITION

LITERATURE

SOCIAL STUDIES

Foods in other countries
Special holiday foods
Food at original Thanksgiving
How pioneers hunted, grew, and prepared food

MATH

Measurements - Cooking
Metrics - Cooking
Counting Apples
Cutting Apples, Quarters, Halves
Comparing Weights of Food

FIELD TRIPS

Cafeteria
Restaurant
Farm
Apple Orchard
Grocery Store

GAMES AND PLAY

Food Lotto
Food Dominoes
Dramatic Play with blocks
Housekeeping Center

ART

Make food out of flour, clay, paint
Make posters of nutritious foods
Make dyes from certain foods
Make mobiles of basic four food groups
Make art prints from potatoes, oranges, grapefruit

MUSIC AND DANCE

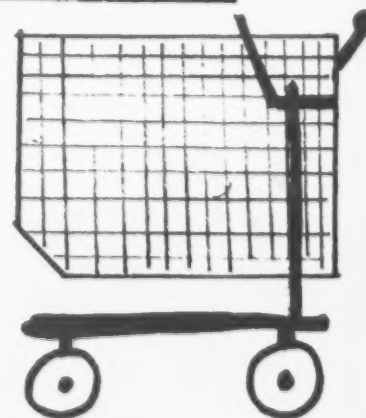
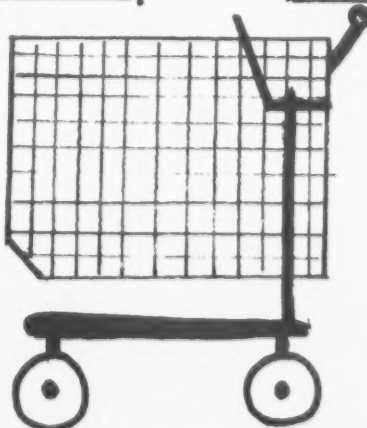
Sing Songs
Dramatize songs -
"Paw Paw Patch"
"Apple Tree"
"Farmer Sows His Seed"
Create movement of seed

HEALTH

Discuss the need for basic four
Discuss good eating habits
Discuss cleanliness of food and self when preparing food and eating

SCIENCE

Growing seeds and plants
Observing changes in food when prepared, corned, dried, frozen, cooked
Observing changes from solid to liquid; liquid to solid



FOOD AND NUTRITION

Rationale

"Many of the lessons in nutrition learned by pupils will be passed on to their families and in later years, to their own children — thus nutrition education is contributing to the future strength and well-being of the nation."¹

Dr. Bernice Mallory,
U.S. Department of H.E.W.

Studies made have uncovered nutritional deficiencies in all age groups—lack of iron, insufficient calcium, vitamins below recommended levels. The reasons for this seem to be the result of poor choice, not lack of money or insufficient supply.

Poor nutrition affects the child in the classroom. The undernourished or poorly nourished child tends to be listless, overactive, timid, or irritable. Needless to say, this affects his ability to participate as fully as he might in learning activities.

Since choice seems to be the critical problem, a unit on food and nutrition should emphasize this aspect — helping children make better choices as to the foods they eat. Only when they have some knowledge as to the range of possibilities and the basic food needs of the body will they be able to accomplish this.

GOALS

To develop the child's ability to:

- Recognize the names of foods, and classify them as to fruit, vegetable, dairy, etc.
- Know the basic food groups and some foods that belong to each.
- Understand that daily diet should include foods from these basic groups.
- Recognize foods that are part of well-balanced meals and snacks.
- Comprehend the variety of ways in which we can eat the same food.
- Develop an increased acceptance of new foods.
- Understand good table manners and rules for eating.
- Work cooperatively in a group, sharing responsibility for various projects.
- Share a family food favorite in the class book.

CONCEPT LEARNING

To develop the child's ability to:

- Classify various foods as fruits, vegetables, etc.
- Separate foods from non-foods.
- Recognize colors in foods — one food (e.g., apple) may be represented by several colors.
- Understand that the relationship of size and weight (large is heavy) is not always constant.
- Relate taste, size, shape, texture to different foods.

¹*Focus on Nutrition*, Massachusetts State Department of Education

LANGUAGE LEARNINGS

To develop the child's ability to:

- Talk with others about the color, flavor, appearance of foods, before and after cooking.
- Record experiences with foods both on charts and in experience stories.
- Relate labels with pictures of items through rebus recipes.
- Listen as stories are read.
- Recall events of stories.
- Sequence ideas.
- Follow oral directions in cooking projects.

SELECTED VOCABULARY

hibernate	nutritious	stir
flavor	measure	beat
strain	hard	soft
crunchy	chewy	dry
sour	root	sweet
leaf	stem	preserve
	seed	

INTRODUCTORY ACTIVITY

Prepare and serve one of the following at snack time (Wheat Thins or Cheese Thins). While children are eating this snack, share with them that the group will study food and nutrition and explain why this is an essential topic. Alert them to the fact that they will do lots of interesting things with foods during the next few weeks, and will have many opportunities to cook and taste a variety of foods.

Wheat Thins

500 ml whole wheat flour
30 ml wheat germ
5 ml salt
5 ml baking powder
30 ml margarine
90 ml dry milk powder
125 ml water
15 ml molasses

Combine dry ingredients. Cut in the margarine with pastry blender. Combine water and molasses, and add this. Grease 2 cookie sheets. Divide dough in $\frac{1}{2}$ and roll directly onto cookie sheet. Roll as thin as possible. Prick with a fork and cut in squares. Bake 10 minutes at 175° C.

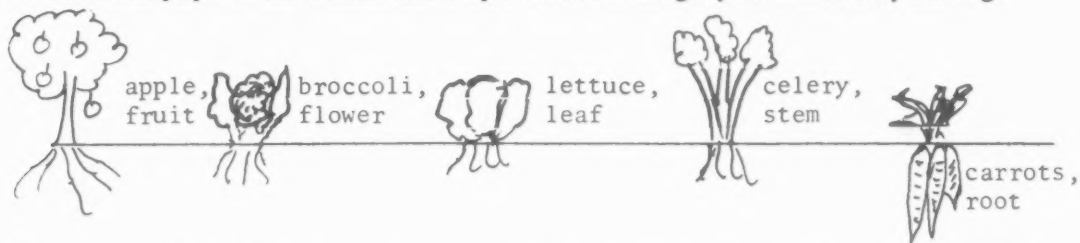
Cheese Thins

250 ml grated sharp cheese
 ½ tsp. salt
 330 ml flour
 80 ml margarine
 45 ml milk

Mix cheese, salt and flour. Cut in the margarine with pastry blender. Sprinkle with the milk. Mix all together and form into a ball. Cut the ball in half and roll each half directly onto a cookie sheet that has been sprinkled with a little flour. Prick dough with a fork. Cut in squares. Bake about 10 minutes or until light brown at 190° C.

Activities

1. Collect pictures of foods which belong to the root, fruit, stem, leaf or flower categories and provide a long piece of shelf paper on which you have drawn a horizontal line. Ask the children whether they have ever eaten a root, fruit, stem, leaf or flower. Discuss each and have children paste pictures of various fruits and vegetables above or below the line on the shelf paper. Label each and emphasize the category to which they belong.



2. Gather a variety of **roots**: potatoes, carrots, beets, radishes; **stems**: celery, rhubarb, mushrooms; **leaves**: spinach, cabbage, parsley; **flowers**: broccoli, cauliflower; **fruits**: tomatoes, squash, cucumber, peppers. Cut the foods into small tasting pieces and pass around. Encourage children to describe the taste and texture. Recall that they are eating stems, leaves, flowers, fruits and roots. Have children make individual or class books with pictures of these fruits and vegetables, labeling each with its type and name. As children have more experiences with these foods, have them add others to the large chart and the books which they have made.
3. Have children collect seeds from foods eaten: apples, squash, pumpkin, oranges, beans, sunflower, peaches. Add an avocado seed and a coconut seed (the nut) and some chestnuts. Cut a banana and examine the very tiny seeds. Have children make an illustrated chart of food with its seed — placing seeds in plastic wrap and taping to chart.

Food	Seeds
 apple	
 pumpkin	
 sunflower	

4. Toast sunflower and pumpkin seeds and compare taste. Record vocabulary used.
5. Classify the seeds and compare sizes and weight. How many apple seeds weigh the same as how many pumpkin seeds, etc.?
6. Make collage pictures using a variety of seeds. Write or dictate a story about their collage.
7. Make popcorn and discuss the effect of heat on the kernels. Compare the size, color, texture, taste of unpopped and popped corn. Save some popcorn for making popcorn letters.
8. Sprout soy or mung bean seeds. Put some soy or mung beans in a large jar with water. Soak overnight. Drain off the water and put in a dark, dry, warm place (closet). Rinse with cool water twice a day. Observe the change — daily-changes in size, hardness or softness, color, new shoots. The sprouts should be ready to eat in a few days. Try them in salads or sandwiches, or children can eat a handful of them. Children can care for these seeds, and record the changes on a chart.
9. Prepare a rebus chart for the following recipe and have children make Sesame Seed Super Squares. Encourage observation and discussion, e.g., the changes in the honey and peanut butter when heated; use of careful measurement, the measurement terms, and such terms as mix, measure, heat, shallow, and unsweetened.

Sesame Seed Super Squares

125 ml honey
125 ml peanut butter
125 ml unsweetened cocoa
250 ml powdered milk
250 ml sesame seeds

Heat honey and peanut butter in a deep pot. Add milk, coconut and sesame seeds. Mix and pat into a flat, shallow pan. Refrigerate and then cut in cubes. Serve.

10. After reading *Stone Soup* have the children recall the events of the story and list all the vegetables that were used in making the soup. Record on a chart. Include a picture to illustrate each written word.
11. Read *Blueberries for Sal* and encourage recall of the story. Talk about the fact that Sal ate her blueberries while her mother filled her pail so that she could can/preserve them for winter.

Further Suggestions:

- a. Follow-up by asking children if they know of other kinds of berries. List them on a chart and have the children find appropriate pictures in seed catalogues (blueberries, strawberries, raspberries, blackberries) to place on the chart. Label.
- b. Bring in a variety of fresh and/or frozen berries. Have children taste and talk about sweetness, sourness, which is the sweetest, etc.? Have children seriate the berries according to sweetness.
- c. Encourage children to share experiences they have had picking berries. Have them write/dictate and illustrate a book on this topic.
- d. Show pictures in *Blueberries for Sal* which depict Sal's mother canning berries. Have ready a canning jar and rubber sealing rings. Combine a bag of frozen blueberries and a can of blueberries and preserve them. Encourage children to share home experiences about preserving foods other than blueberries.

12. Review the content of the story *Stone Soup* and suggest that the children make their own. Referring to the vegetable chart, ask each child to bring in one of the listed vegetables and assign a team of two to find a large smooth stone. When the ingredients are assembled, have the children wash the stone and vegetables and prepare the soup. Encourage observation and discussion of the different sizes, colors, shapes, and textures, smells, and tastes of the vegetables. Have children predict how the soup will taste. Record on an experience chart.

Recipe for Stone Soup

3 liters of water
464 grams of ground meat (can be omitted)
4 carrots, peeled and sliced
4 potatoes, peeled and chopped
4 stalks of celery, chopped
4 small onions, chopped
¼ head of cabbage
1 can tomatoes, chopped
salt
1 smooth stone

Add all other ingredients to stone and simmer until tender.

Further suggestions:

- a. In preparation for eating the soup, have children count the number of bowls which will be needed. As children eat their soup, encourage discussion of how the texture of the vegetables changed in cooking. Record before and after textures on a chart.
 - b. Place a stone and vegetables in the housekeeping corner to encourage dramatic play on this topic.
 - c. Show the movie *Stone Soup* without sound. Have children dictate accompanying script.
13. Read *Nail Soup* a similar Swedish folk tale and discuss how the two stories are alike and how they are different. Discuss varied ways of making their own versions of stone soup. Dictate these recipes and place in a class book.
14. If it is not too late in the fall for peaches, provide an opportunity for the children to learn about preserving through drying. Introduce the concept by asking the children to list all the things they know which are made of leather. Make an illustrated chart of labels and pictures. Then provide fresh fruit for children to sample — note the juicy, sweet taste of peaches. Following this experience prepare peaches for drying as follows:

Peach Leather

Peel extra ripe peaches. Wash and roll onto a wooden board. Cover with cheese cloth and set in the sun to dry.

Have the children record the amount of time needed for drying. When dry, cut into strips and serve. Encourage discussion of the taste of Peach Leather and how it compares in texture and taste with the fresh fruit.

15. Talk with the children about other dried, prepared fruits that we eat frequently — e.g., raisins, figs, prunes. Have fresh fruits available to encourage making comparisons. Class can then make a nutritious snack by combining dried fruits:
 - 250 ml raisins
 - 250 ml dried prunes
 - 250 ml chopped nuts
 - 250 ml cocoanut
 - 250 ml chopped figs.
 Put all ingredients through a food grinder (sticky, but a good motor activity). Form into balls and roll in more coconut.
16. Refer back to *Blueberries for Sal* and promote discussion on the basic way of storing food. Compare and contrast with the approaches people use.
17. After discussing all the things we can do with blueberries and the ways they can be eaten (e.g., from the bush, cooked for a sauce, in pancakes, and in muffins), provide a cooking experience using an illustrated recipe. Encourage the children to relate printed words with oral language by writing/dictating an experience story after the cooking activity.

Recipe for Blueberry Pancakes

1. Combine in bowl:
 - 1  flour
 - 1  baking powder
 - 1  salt
2. Add:
 - 1  well beaten
 - 1  milk
 - ¼  liquid shortening
3. Stir
4. Gently add:
 - ¼  blueberries
5. Cook in frying pan.
6. Eat-Yummy!

Note: Picture of cup does not indicate unit of measure. Cup would be 250 ml. Large and small spoons indicate 15 ml and 5 ml respectively.

18. Take a trip to an apple orchard. Have children note how apples are grown and pick them. Later have them count their apples, classify according to type, and compare the sizes of the apples gathered.
19. Using parent helpers divide the class into four groups, each group to prepare apples in a different way.
 - a. applesauce - cooked
 - b. applesauce - raw
 - c. chopped raw apples
 - d. apple juice

Have children observe changes in the apples when cut, cooked, peeled, etc., and note the number of pieces you can get from one apple. Encourage comparison of the taste and texture of raw and cooked applesauce; the taste of applesauce before and after adding spices; the taste of apple juice and raw apples. Record vocabulary used on a chart.

20. Cut apples vertically and horizontally. Talk about the star in the middle and make art prints with the pieces.
21. Read *Rain Makes Applesauce*. Have the children recall their earlier field trip and write/dictate a group language experience.
22. Involve children in finger play activities.
23. Tell the story *Horton Hatches the Egg* using flannel board characters. Encourage sharing about whether the story could actually happen the way it was told. Serve eggnog for snack to illustrate that there are a variety of ways to "eat" eggs.
24. Provide four uncooked eggs. Crack one open into a clear bowl, and have children note the different parts of the egg — shell, yolk, and white — and what each is like in color and texture. Boil the remaining three eggs for varying lengths of time. Ask children if they think the eggs will be the same as the uncooked egg. Why? Why not? Open each egg noting how they are alike and different.
25. Prepare cooked cereal and divide children into small groups by placing their names on small disposable bowls. Give each group a container of milk and one of honey. Serve the cereal. Record children's reactions to this food.
26. After discussing the value of milk and the other ways in which we can eat/drink it, divide the children into three groups to make chocolate pudding. Have the children pour the ingredients into a mixing bowl after measuring them and take turns beating the ingredients until the pudding is ready. A rebus recipe should be prepared before hand.

Note: It is often fun to make vanilla pudding and add food colors.

27. Include favorite class recipes in an illustrated cookbook. These could be sent home to encourage carry-over.
28. Plan and serve a breakfast that includes foods from all four food groups: fruits, juices; granola, whole wheat pancakes, bran muffins; eggs, milk, cheese.
29. Make books in the shape of fruits/vegetables: e.g., long, thin, green celery book; round, red apple book; yellow and brown banana book. Children might be able to try some unrhymed poetry or might be able to create nonsense rhyming verses. After they dictate their creative writing, print it for them. Have the children copy it in their shape book.
30. Measure and compare size and shape. Use a variety of fruits and vegetables and an equal-arm balance scale. Does a long banana weight as much/more/less than a round potato? Have children hypothesize which is heavier: an apple or an orange, then test their predictions. Ask the following or similar questions: Do all apples weigh the same? Does a large head of lettuce weigh more than a small turnip? Try balancing the scale — How many apples will balance how many potatoes? Make charts of the results — label and illustrate.
31. After experiences with "real" food, gather pictures of different items and have the children classify them.
 - Group by color
 - Classify as fruit or vegetable
 - Which red ones are fruits, which are vegetables?
 - Which are juicy — are all juicy ones fruit?
 - Which are sweet — are all sweet foods fruit?
 - Which ones do we eat raw — which ones do we cook?
 - Make charts and paste pictures. Label pictures.

32. Make a collage showing Foods and Other - some things are not food. Use pictures of a variety of foods and other items. Child chooses pictures and pastes them in proper places. Label all items.

Food	Other
apple 	 car
nuts 	 pencil
carrots 	

GAMES

1. Shopping - Leader says, "I am going to the store to buy things for breakfast. Will I put oranges in the cart? Will I put oatmeal? Will I put chewing gum?" (other nonsense and real things). As leader names items, he asks a child to answer. Then children take turns being leader, with different meals, with different occasions.
2. Blindfold Taste-Blindfold child (or have him close his eyes) and place an item of food in his mouth. Child describes it as soft/hard, sweet/sour, hot/cold and labels it if possible. Use such foods as fresh orange, grapefruit, apple, banana, carrot, celery, green pepper, pickle, etc. Record the vocabulary used.
3. Same/Different - Use a large piece of oak tag divided into columns labeled Same/Different. Make cards with pictures of foods (food stickers can be used to assure having the same picture). Child puts card on correct column of oak tag.

Same	Different
 	 

	
apple	apple

	
apple	pear

	
banana	bananas

4. Matching - Make cards with sets of two pictures of same fruits and vegetables. Children are to match the cards that are the same.
5. Fish - Play this game similar to Fish, but use picture sets of foods — four cards of each.
6. Food Bingo - Divide oak tag into six sections, and make cards to match the sections. Label the pictures. Play this as you would any other Bingo.

 Lettuce	 Tomato
 Orange	 Banana
 Beans	 Apple


Lettuce


Tomato


Orange


Banana

7. Food Dominoes - Children match the ends of the cards. Each child takes five cards and leaves the rest in the middle of the table. They continue to take cards until they are unable to match.



CULMINATING ACTIVITIES

1. Divide class into teams of three. Assign a particular meal to each group and ask children to cut pictures from magazines and plan a nutritious meal. Pictures are to be pasted on paper and labeled according to the meal. Assemble into a class book of nutritious foods.
2. Plan and prepare a luncheon for parents and/or brothers and sisters. Write/dictate recipes, invitations, and menus.
3. Make a display for the hall bulletin board using children's pictures of nutritious foods, posters of the basic food groups, recipes for preparation of the food which the children have cooked, and copies of individual and class books.
4. Have children write/dictate letters to the principal encouraging the sale of nutritious snacks rather than cookies, sweets, and potato chips.
5. Invite parents and families to a tasting party prepared by the class and some mother helpers.



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Beecher-Dock House
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University Park, Pa. 16802

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Milk, Butter and Cheese. Carolyn Meyer. William Morrow, New York, 1974.

The Bread Book - all about bread and how to make it. Carolyn Meyer, Harcourt Brace, Inc., New York, 1971.

The Natural Snack Cookbook - Jill Pinkwater, Four Winds Press, New York, 1975. (Background of food and nutrition and why it is important - good natural food recipes)

*Excellent resource guide available free of charge.

ACTIVITY IDEAS

Florida Citrus Commission - *Better Breakfast Cutouts*. (To use on flannelboard) Box 148, Lakeland, Florida.

Let's Make Butter (Activity folder for milk and butter activity)
New England Dairy and Food Council
1034 Commonwealth Avenue
Brighton, Massachusetts 02135

Nutrition Action Pack

McDonald's Action Packs
Box 2594
Chicago, Illinois 60690 (includes classroom activity, activity masters)

Posters: Ordered from Florida Citrus Commission, P.O. Box 148, Lakeland, Florida 33803.

Good Breakfast is Fun
Citrus Family
We Help you Keep Fit

Poster: "Every Day Eat 1-2-3-4 Way"

M.E. Dairy and Food Council
1034 Commonwealth Avenue
Brighton, Massachusetts 02135

Sunkist Growers, Inc.

Consumer Services
P.O. Box 788
Van Nuys, California 91409 (flannel board stories and other materials)

FILMS AND FILMSTRIPS

A Visit with Farmer Joe. 12 min. 16 mm color (tour of a farm)

Maine Dairy Council
Augusta, Maine

Be Healthy! Be Happy! 11 min. 16 mm color (desirable health habits, created by animal figures)

Maine Dairy Council
Augusta, Maine

Bill's Better Breakfast Puppet Show. 13½ min. color

Cereal Institute, Inc.
135 South LaSalle Street
Chicago, Illinois 60603

Blueberries for Sal. 9 min. \$5 rental (movie of the book by Robert McCloskey)

Weston Woods
Weston, Connecticut 06883

Captain Kangaroo. 14 min. color (Milk, farmers, cows, how butter, cottage cheese, ice cream are made)

Maine Dairy Council
Augusta, Maine

Eating with Harv and Mary. 10 min. 16 mm color (Introduces children to concept of balanced diet with special emphasis on nutritious snacks - animated characters and real boys and girls)

Maine Dairy Council
Augusta, Maine

Hey, Cow! 9 min 16 mm color (Was a Sesame Street Production - good look at a friendly cow that gives us milk)

Maine Dairy Council
Augusta, Maine

Hortense and Stephanie. 39 frames, 13 minutes (Milk-cow gives children lesson in how milk is produced)

Multi-Media Productions
P.O. Box 5097
Stanford, California 94305

My Milkman Joe. 20 min. 16 mm color (Joe and puppet tell story of milk and proper diet)

Maine Dairy Council
Augusta, Maine

Stanley Takes a Trip. 10 min. 16 mm color (Story of balanced diet, cartoon form)

Maine Dairy Council
Augusta, Maine

Stephanie's Gingerbread Man. 37 frames, 9 min. (While baking bread with Grandma, discover yeast and its properties)

Multi-Media Productions
P.O. Box 5097
Stanford, California 94305

Stephanie's Necklace. 46 frames, 9 min., sound (Planting seeds and growing edible fruit — what is needed to grow)

Multi-Media Productions
P.O. Box 5097
Stanford, California 94305

Stone Soup, movie from book, \$5 rental

Weston Woods
Weston, Connecticut 06883

Uncle Jim's Dairy Farm. 11 min. 16 mm color

Maine Dairy Council
Augusta, Maine

We Are What We Eat. (Two part sound filmstrip about food, basic nutrition, "junk" foods, explores them)

Multi-Media Productions
P.O. Box 5097
Stanford, California 94305



LANGUAGE AND READING READINESS

Read books about pets to children
Dictate stories of children's own pets
Beginning letters of animal names
Matching letters in words
"Animal Similes"
Animal riddles
Poems about animals

MATH

Counting exercises
with pictures of
animals

SENSORY VALUES

Using our senses to describe the way an animal
looks, sounds, feels and smells
Fine and gross motor activities
Observing likenesses and differences through
our senses

SCIENCE

Classifying animals:
mammals, reptiles, insects
Likenesses and differences according
to size, color...
Different kinds of pets, "wild" pets

MUSIC

Sing songs about
animals
Use instruments to
relate to animals

PETS

ART

Draw pictures of personal pets
Make collages
Mobiles
"Birthday Cake"
"Funny Animals"
Paint a mural on care of pets
Bulletin board of a field trip

SOCIAL STUDIES

Caring for pets
Training
Pets of children in different
countries
Farm animals

FIELD TRIPS

Visit a pet shop
or a farm
Go to a circus
or a zoo

PETS

Rationale

A study of pets and animals capitalizes on the young child's natural curiosity. The five-year-old is sensitive toward and seeks an understanding of pets and animals in general. Many concepts can be gathered from this study — size, shape, number, color, texture, weight, smell, sounds, food, etc. Specific concepts relating to individual animals emerge as a result of animal studies.

There are additional values and by-products. Children learn proper care of animals, how to hold them, how and what to feed them. Fear of animals can also be relieved.

A study of pets is one area that should not be neglected. It has great potential as a learning medium for children. Do be alert, however, for children who are allergic to animals before bringing them into the classroom.

CONCEPT LEARNINGS

To develop the child's ability to:

- Use expressive and receptive language.
- Understand that he and others can read the stories he has written or dictated.
- Recognize the value of recording thoughts and ideas by means of art, dictation, and writing of stories.
- Comprehend that we can read the stories or parts of stories that others have written.
- Realize that we read for pleasure and that we also read to gather information on a topic.
- Understand and use the vocabulary related to this unit and comparative terms.

SELECTED VOCABULARY

The possibilities for the names and characteristics of domestic animals are almost unlimited. Related vocabulary might include:

characteristics	veterinarian	train (verb)	diet
covering	bathe	shear	mammal
reptile	squeal	pen	offspring
protection	pant	groom	infection

INTRODUCTORY ACTIVITIES

1. After observing and discussing the classroom pet(s), develop a group experience chart which focuses on this topic.
2. Gather appropriate books from the classroom collection, public and school library, and books brought from the children's homes and arrange a display of books and pictures about pets and animals. Read selected books to the children and have them brainstorm specific topics they wish to explore regarding pets and animals. Record these on a chart and use as a point of reference while the unit is being studied. Place as many books as possible in the library corner to encourage interest, discussion and provide answers for the questions raised by children.

ACTIVITIES

1. Have the children bring in pictures and/or snapshots of their own pets or one they would like to have. Develop a bulletin board and label all pets.
2. Have the children draw a picture of their favorite pet or animal and dictate a story about the animal. Combine stories and pictures into a class book.
3. Have the children cut pictures of animals from magazines. Use these to stimulate discussion of the characteristics of animals (size, color, shape, covering, etc.). Record descriptive vocabulary on a chart.
4. Gather all pictures previously cut from magazines and classify them by species, e.g., those with and without fur, those that fly and those that do not fly. Make a graph of the classifications. Count the number in each category. Make comparisons of the number of animals in each category.
5. After discussing the characteristics of a variety of animals, place the following labeled pictures on the chalkboard. Have children complete similes by selecting the appropriate picture.

Pictures

hyena	kitten
bird	rabbit
dog	lion
elephant	giraffe
hippopotamus	pig
mouse	fish

Similes

swims like a _____	tall as a _____
soft as a _____	heavy as a _____
fat as a _____	hops like a _____
roars like a _____	squeals like a _____
laughs like a _____	barks like a _____
quiet as a _____	flies like a _____

6. After a word gathering of terms which describe how animals move and feel, have each child select an animal and create a riddle which describes it. Each child can share his riddle with the class or group.
7. Read and discuss *Give a Guess*. Have the children: create their own animal riddles, dictate these riddles, and illustrate them.
Place all riddles into a class book. Example:

I am a very small animal.
I live in the water.
I crawl slowly to get around.
I carry my house everywhere I go.
I am a _____.

8. After reading a poem to the children, discuss how poems differ from stories. Have the children brainstorm rhyming words and write/dictate poems about animals and pets.

9. Have the children make a collage of pictures of pets which they have cut from magazines. Label pictures and combine collages into a roller movie.
10. Introduce the idea of a pretend birthday party for different kinds of animals, such as a chimpanzee, a fish, an elephant, or a bird. Discuss the kinds of gifts, food, and games the various animals might enjoy. After class discussion, have the children select one of the animals and draw a picture of its birthday party. To motivate students, read and discuss the "Birthday Cake" by Aileen Fisher.
11. Make funny animals. Materials: paper (22.5 cm × 30 cm), crayons or drawing pencils, groups of three people.

Directions:

- a. Take a piece of paper. Fold it into three parts.
 - b. The first person draws a head and neck in the top part of the paper. He folds the paper so no one sees it.
 - c. The second person draws a body with a tail or fins, depending on what the animal is. He folds the paper.
 - d. The last person draws legs and feet at the bottom of the paper.
 - e. Unfold the paper. Look at the funny animal and discuss.
 - f. Repeat entire activity to see the number of funny animals the children can create.
 - g. Place these pictures into a class book.
12. Read and discuss *How to Care for Your Dog*. Talk about types of care different pets require and why it is necessary to care for our pets. Then introduce the role of the veterinarian and read *Animal Doctors - What Do They Do?* Place appropriate props in the dramatic play corner and encourage the children to incorporate this new role into their socio-dramatic play.
 13. Have some children dictate stories on pet care and record on a cassette. Place in the listening center for the others to use.
 14. After making animal stick puppets, have the children present a puppet show on animal care or a related topic.
 15. Provide blank books cut in the shape of animals for the children to use in writing/dictating and illustrating their own books. Place completed books in the classroom library.
 16. After discussion on how to care for pets (activity 12), have the children plan and make a mural which illustrates appropriate care of both sick and healthy pets.
 17. Introduce the idea that while we must care for pets and animals, they in turn care for and provide for us in a variety of ways. Encourage discussion on this topic. Have the children draw or peruse magazines for pictures which illustrate this idea. Combine pictures into a roller movie.
 18. Read *Pelle's New Suit* and have the children role play the events in the story which illustrate how sheep can be helpful to us.

19. Read one or more of the following and have the children role play the stories.

The Three Little Pigs
The Three Billy Goats Gruff
The Three Bears
The Little Red Hen and the Grain of Wheat
Jeanne-Marie Counts Her Sheep
May I Bring a Friend?

Variation: Encourage the children to dictate new endings to these favorite stories.

20. After reading *Come to the Pet Shop* by Ruth Tenson, prepare the children for a field trip to the pet shop. Have them list questions for which they want answers, write/dictate letters to request permission for the trip (principal, parents, pet store manager). Discuss how they will act on the field trip and select individuals or teams to ask questions raised in class.

Following the trip, have the children record the experience on a chart and/or develop group charts which focus on the answers to the questions raised prior to the field trip.

21. After discussing ways in which animals are trained, divide the class into two groups - one group of animals, the other of trainers. Trainers are then asked to select an animal and plan a dramatic play situation which portrays the training of the chosen animal. The trainer/animal team then presents its act to the other children.
22. Show *The Cow*, a film without dialogue, to the children. After the film, ask the children to list words which they think are appropriate for describing the cows, meadows, and actions depicted on the film. Record all vocabulary on a chart.
23. View and discuss the film *If I Were an Animal*. Ask the children to brainstorm a list of animals and elaborate upon how they believe these animals feel and behave. Conclude the activity by having the children pantomime animals of their choice.
24. Read *Just Me* and follow up with a discussion of how cats, turtles, rabbits, fish, etc., move. Have the children pantomime.
25. Read stories about different kinds of pets such as mice, monkeys, snakes, chickens, cows, etc. (refer to bibliography). Discuss the different aspects of having a "wild" pet. Read *Odd Pets* by Dorothy Hogner or use the book as a reference.
26. Sing songs about animals.

My Pony by Henry M. Halvorson
Old MacDonald Had a Farm
Train to the Zoo, narrated by Norman Rose

The following song provides excellent motivation and background for puppetry, dramatic play, pantomime and art.

A Little White Duck

Oh, there's a little white duck
Sitting in the water,
A little white duck
Doing what he oughta.
He took a bite of a lily pad,
He flapped his wings,
And he said, "I'm glad,
I'm a little white duck

Sitting in the water,
Quack, quack, quack."

Oh, there's a little green frog
Swimming in the water,
A little green frog
Doing what he oughta
He hopped right off the lily pad
That the little white duck bit,
And he said, "I'm glad,
I'm a little green frog
Swimming in the water,
Glug, glug, glug."

Oh, there's a little black bug
Floating on the water,
A little black bug
Doing what he oughta.
He tickled the frog
On the lily pad
That the little duck bit,
And he said "I'm glad,
I'm a little black bug
Floating in the water,
Chip, chip, chip."

Oh, there's a little red snake
Plowing in the water,
A little red snake
Doing what he oughta.
He frightened the frog and the duck away,
Ate the little black bug,
And I heard him say, "I'm glad,
I'm a little red snake
Plowing in the water,
Phoof-f-f-f-f-f."

Now there's nobody left
sitting in the water,
Nobody left doing what he oughta.
The frog and the duck
Ran away, I'm glad.
The snake ate the bug
And I'm very sad,
Because there's nobody left
Sitting in the water.
Boo, hoo, hoo.

27. Partially fill a one gallon jar, or similar large, glass container with soil. Find an ant hill. Shovel the dirt and debris into the jar. Cover the jar with dark paper to encourage the ants to make tunnels. Place some cotton on top of the dirt and pour a little water on

it every few days. Feed the ants crumbs of bread and cookies, honey or sugar water. Encourage the children to observe the ant farm and write/dictate a story about the activity observed.

28. Put toothpicks and marshmallows on table and talk about their color, shape, feel, and taste. Encourage discussion about the kinds of animals the children could make with these materials. Have the children make marshmallow animals. When completed have each describe his animal for the other children.
29. Gather a set of animal pictures (parent and baby). Have the children match the baby animal with the appropriate parent and later arrange the various animal patterns into sets (cats, sea mammals, birds, reptiles, etc.)
30. Have the children use rhythm instruments to convey the characteristics of animals (heaviness, lightness, slowness, etc.)

CULMINATING ACTIVITIES

1. Create a pet shop or farm on a small scale using a medium such as sawdust, wheat paste, and water in a large box. Have each child make an animal out of clay to put in the model.
2. Put on a play by acting out a favorite story. Be sure to involve every child in some way. Invite other kindergarten classes, parents, and siblings to view the play and materials created by the children.

CHILDREN'S LITERATURE

Fiction

A Boy, A Dog, and A Frog. Mayer, Mercer. New York: Scholastic Book Services, 1971.

Be Nice to Spiders. Graham, Margaret. New York: Harper and Row, 1967.

Bedtime for Frances. Graham, Margaret. New York: Harper and Row, 1960.

Billy and Blaze. Anderson, C.W. New York: Young Readers Press, Inc., 1972.

Bread and Jam for Frances. Graham, Margaret. New York: Harper and Row, 1964.

Clifford Gets a Job. Bridwell, Norman. New York: Scholastic Book Services, 1971.

Clifford's Halloween. Bridwell, Norman. New York: Scholastic Book Services, 1969.

Clifford Takes a Trip. Bridwell, Norman. New York: Scholastic Book Services, 1966.

Clifford the Big Red Dog. Bridwell, Norman. New York: Scholastic Book Services, 1969.

Clifford's Tricks. Bridwell, Norman. New York: Scholastic Book Services, 1969.

Cricor. Ungerer, Tomi. New York: Scholastic Book Services, 1971.

Curious George. Rey, H.A. New York: Scholastic Book Services, 1970.

Curious George Gets a Medal. Rey, H.A. New York: Scholastic Book Services, 1970.

Curious George Takes a Job. Rey H.A. New York: Scholastic Book Services, 1970.

Flip. Dennis, Wesley. New York: The Viking Press, 1941.

Indian Two Feet and His Horse. Friskey, Margaret. New York: Scholastic Book Services, 1970.

Jeanne-Marie Counts Her Sheep. Francoise, New York: Charles Scribner's Sons, 1951.

Just Me. Ets, Marie Hall. New York: Scholastic Book Services, 1970.

Little Wolf. McGovern, Ann. New York: Scholastic Book Services, 1970.

May I Bring a Friend? deReginens, New York: Antheneum, 1965.

Pelle's New Suit. Beshow, E. New York: Harper and Roco, 1929.

Pretzel. Rey, H.A. New York: Scholastic Book Services, 1970.

Rabbit Garden. Miles, Miska. Boston: Little, Brown and Company, 1967.

Rosie's Walk. Hutchins, Pat. New York: Collier Books, 1968.

The Country Cat. Bridwell, Norman, New York: Scholastic Book Services, 1972.

The Cow Who Fell in the Canal. Spier, Peter. New York: Scholastic Book Services, 1969.

"The Tuesday Elephant" from *Growing*. Smith, C., and Wardhaugh, R. New York: MacMillan Company.

The Mouse Book. Piers, Helen. New York: Scholastic Book Services, 1970.

Too Many Kittens. Schenley, R. Chicago: Albert Whitman and Company, 1963.

Too Much Noise. McGovern, Ann. Boston: Houghton Mifflin Company, 1967.

Two Crabs and the Moonlight. Yamaguchi, Tohr. New York: Holt, Rinehart and Winston, 1965.

Whistle for Willie. Keats, E.J. New York: The Viking Press, 1964.

Non-Fiction

All Kinds of Babies. Selsam, M. New York: Scholastic Book Services, 1967.

An Ape or a Monkey. Sapis, K., and Sapis, J. New York: Scholastic Book Services, 1973.

Animal Doctors - What Do They Do? Green, C. New York: Scholastic Book Services, 1971.

How to Care for Your Dog. Bethell, J. New York: Scholastic Book Services, 1971.

What's Inside? Garelick, M. New York: Scholastic Book Services, 1971.

RESOURCES FOR THE TEACHER

POEMS

A Row of Crows. Batherman, Muriel. New York: Holt, Rinehart, and Winston, Inc., 1973.

From Little to Big. Vance, Eleanor Graham. Chicago: Follett Publishing Company, 1972.

Pets and People. Everetts, Eldonna L., Hunt, Lymon C., Weiss, Bernard J. New York: Holt, Rinehart and Winston, Inc., 1973.

"Pablo Has a Donkey" by Nona Keen Duffy.

"The Goldfish" by Dorothy Aldis.

"The Cow" by Robert Louis Stevenson.

RECORDS

Literature for Listening and Reading

Curious George Rides a Bike. Rey, H.A. Produced by Columbia Children's Book and Record Library. Distributed by BFA Educational Library.

The Story About Ping. Flack, Marjorie. Produced by Columbia Children's Book and Record Library. Distributed by BFA Educational Media.

Songs and Records

Halvorson, Henry M. "My Pony" from *Songs About Stories of the Ginn Basic Readers*. Album 2. Found on page 238 of the *Manual for Teaching the Pre-Primer Program* by David H. Russell and Odille Ousley. Boston: Ginn and Company, 1961.

Narrated by Norman Rose. "Train to the Zoo" New York: Children's Record Guild, n.d. Found in *Prime Time-Children's Early Learning Years* by Arthur Gilbert.

Miller, Marvin. *Dr. Seuss Presents...* "Yertle the Turtle". R.C.A. Records.

The Magic World of Children's Favorites. Showcase Records

"Pop Goes the Weasel"

"Nick, Nack, Paddy Whack"

"Old MacDonald"

"Farmer in the Dell"

"Blue Tail Fly"

"Turkey in the Straw"

"The Inch Worm"

"The Ugly Duckling"

The Child's Garden of Music and Verse. Tri-L Inc., Deerfield, Illinois.

"Carnival of the Animals" with filmstrip.

A Little White Duck. RCA Bluebird Children's Records. 45 R.P.M.

FILMS AND FILMSTRIPS

- *"Baby Rabbit." Churchill Films, Los Angeles, California
- *"The Cow." Churchill Films, Los Angeles, California
- *"If I Were an Animal." Three Prong Television Productions, Chicago, Ill.
- *"Make Way for Ducklings." Weston Wood Studios, Inc., Weston, Connecticut
- *"Swimmy." Connecticut Films, Inc., Westport, Connecticut
- "Curious George Rides a Bike." Weston Woods Studios, Inc., Weston, Connecticut
- "Millions of Cats." Weston Woods Studio's, Inc., Weston, Connecticut
- "The Tale of Peter Rabbit." Weston Woods Studios, Inc., Weston, Connecticut
- * = Film



LANGUAGE DEVELOPMENT

Sea Poems
Treasure Chest
Feeley Meeley
What Am I Stories
Something Wrong Stories
Sea Rhymes
Concept Books

LITERATURE

MATH

Measuring in Cooking
Weight and Measure at Sand Box
Counting Shells and Other Objects Found at the Beach
Seals and Balls Game

SCIENCE

Field Trip to the Beach
Survival Methods of Sea Creatures and Their Food Chain
Sort and Classify Objects

COOKING

Sea Foods That Can Be Eaten
Irish Moss Pudding

ART

Food Chain Mobile
Underwater Park
Seaweed Note Paper
Sand Painting
Clay Sea Creatures

GAMES

Web of Life
Go Fish
Sea Creatures
Puzzles
Shamu the Whale
Seals and Balls

MOVEMENT

Animal Charade
Web of Life



THE BEACH

Rationale

The seashore presents a diverse environment to those plants and animals within its zones. Nutrients are brought to the shore by waves and tides. A variety of animals live within the sea or prowl the seashore. Along with being exciting and fun, this unit will show some of the many relationships in the ecology of the sea.

CONCEPT LEARNING

To develop the child's ability to:

- Sort objects into different categories using size, shape, color or texture.
- Group objects into classes such as plant, animal or other.
- Distinguish between objects that sink and float.
- Seriate objects according to size.
- Distinguish between living and non-living things.
- Better understand the life cycle.
- Understand that some things from the sea can be eaten.
- Recognize that sea creatures have a different kind of life than people.
- Use his five senses to identify things.
- Count objects that he has collected.

LANGUAGE LEARNINGS

To develop the child's ability to:

- Use descriptive words.
- Talk with others as individuals and in groups.
- Listen to others and share ideas.
- Sequence ideas heard and experienced.
- Dictate a story using words and sentences.

SELECTED VOCABULARY

beach	in
ocean	out
sea	splashing
waves	crashing
tidal pool	crab
snorkel diving	sea urchin
shells	periwinkle
clams	scallop
	mussel



INTRODUCTORY ACTIVITIES

Plan a field trip to the beach at low tide. Have the class check the newspapers to see when low tide is and plan to arrive about one hour before. Put a sticker or marker in sand upon arrival to show where the tide is. The children can observe the tide going out and coming in.

Children should explore the tide pools. They can search for animal homes, look at and identify the animals, and return them to their proper homes. Shells, seaweed, sand dollars, driftwood, etc., may be collected and brought back to school. Irish moss seaweed should be collected and used to make a pudding at school.

ACTIVITIES

1. Make Irish Moss Pudding (blanc-mange).

Recipe

250 ml Irish moss
1 liter milk
125 ml sugar
5 ml vanilla
 $\frac{1}{2}$ tsp. salt
30 ml cocoa or other flavoring

Soak Irish moss in water for a few minutes. Clean and drain. In a double boiler, cook milk and Irish moss for 20 minutes, stirring continuously. Strain out seaweed. Add sugar, salt, and flavoring. Cook for an additional 5 to 10 minutes. Add vanilla. Chill.

Have children make predictions, which the teacher records, on a chart about what will happen when the ingredients are combined. Upon completion of the pudding, the predictions may be checked to see if they were correct.

2. In addition to the seaweed pudding, have a "Tasting Party" at which the children taste clams, mussels, crab, lobster, periwinkles, quahogs, scallops, shrimp, and different kinds of fish. Record likes and dislikes on a chart.
3. Use beach collection for sorting and classifying activities. They may classify by size, shape, color. Other classes may be:

Sea things that we can eat
Sea animals
Sea plants
Sea shells
Things that float

4. Using several tidal pool animals, prepare a chart:

How does each	move	breathe	eat	protect itself
barnacle				
starfish				
crab				
periwinkle				
whelk				
mussel				

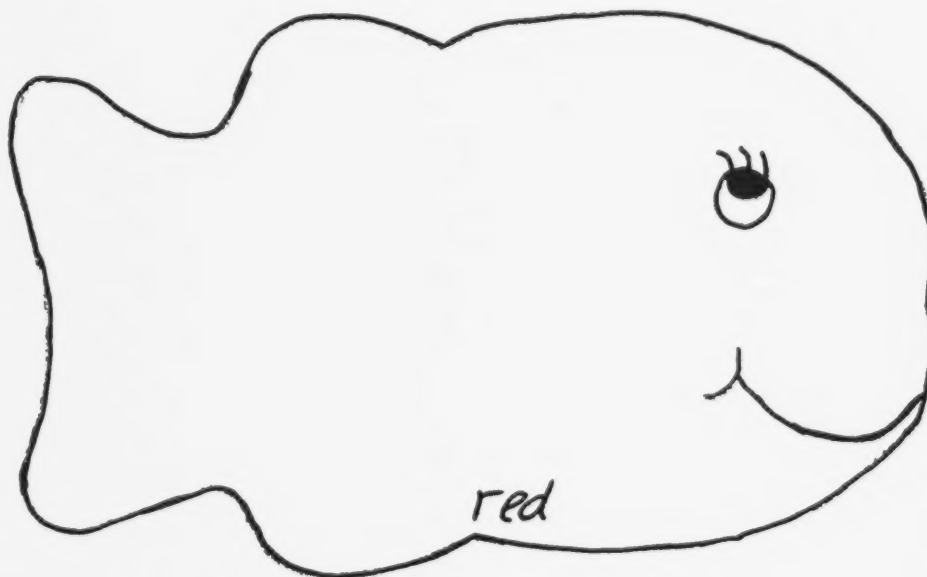
Have children discuss each animal. What do they eat? What eats them? Do they have shells? The children can then take turns doing a charade of a sea animal while the others guess what it is. Record information given by children on chart.

5. After discussing sea creatures, have children write or dictate their own stories about what it is like to be a sea creature.
6. Have children make up a newspaper article about the birth, life and eventual death of their favorite sea animal. Use clay to make a model of this sea creature.
7. Play Web of Life. Let each child be an element in the food web such as sun, plankton, seaweed, animals, and even people. Discuss what each animal eats and what would eat it. Connect strings between predators and prey until a web of life is formed. Destroy (remove) one piece of the food web and cut the strings held by that child. See how many things are affected. Discuss why one of the animals is missing. Record on a chart and illustrate.
8. Make a food chain mobile. Draw and cut out tide pool creatures. Hang them in proper sequence from two crossed sticks or straws.
9. Construct an underwater park mural. After talking about snorkel diving and all of the things that can be seen under the water, make a mural of life under the water. (Have several good resource books with illustrations and photographs available before beginning the mural.) The mural should include life such as coral, seaweed, fish, etc. These may be colored with crayon and then brushed over with a thin blue and green paint wash. (Crayon Resist.) Label contents of mural.

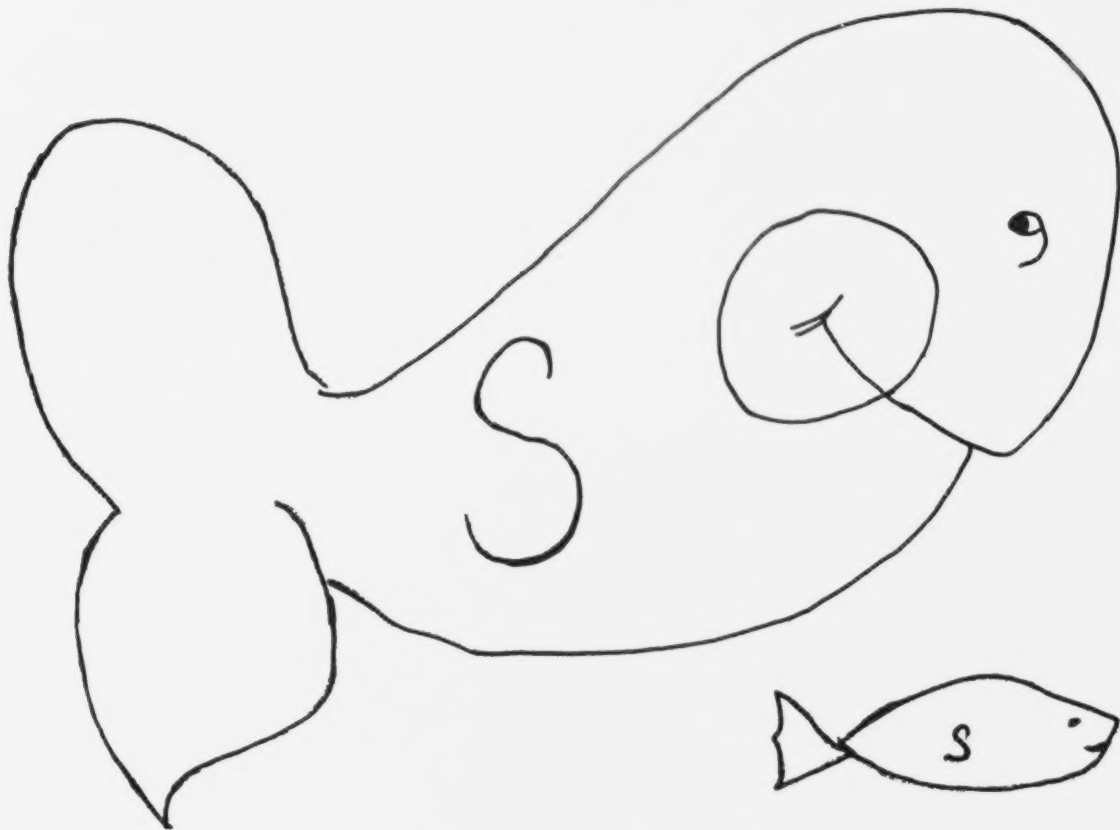
10. Make seaweed note paper. Prepare index cards by floating pieces of seaweed on to paper. Dry flat and cover with Saran Wrap or clear contact paper. These can be used as greeting cards or for recording children's sea poems. Example:

Beach
by Shelley
Swimming, playing
Sand, waves, sun
Shells, balls
Fun!

11. Collect live sea life and bring to school in a cooler with salt water. Include such life as starfish, hermit crab, periwinkles, clams, sea cucumber, sand dollars, and sea urchins. Describe each one to the class and have the children guess what it is. Let the children touch, feel, smell and look at each object.
12. Make up "What Am I?" stories. For example: I have five arms. My mouth is in the middle of my body. I am not a fish. What am I?
13. Make up stories with something wrong - The seagulls gathered on the rocks looking at the frozen ocean. What is wrong? Why?
14. Feeley Meeley activities are fun. Put an ocean object such as sea horse, starfish, razor clam, sea urchin, coral, or driftwood into a box. Let a child reach into the box and without looking at the object, describe it to the class. If the class cannot identify the object from the description, they may ask additional questions. Record the descriptive words used on a chart.
15. Set up a sandbox in the classroom. The children can play in the wet or dry sand. They can build sand castles with the wet sand. Can you build a castle with dry sand? Why? Why not? Children may also weigh and measure objects and materials in the math center with sand.
16. Go Fish (color game). Make four fish of each color. The children play the game using the same rules as the card game fish. The goal is to get matching color pairs.

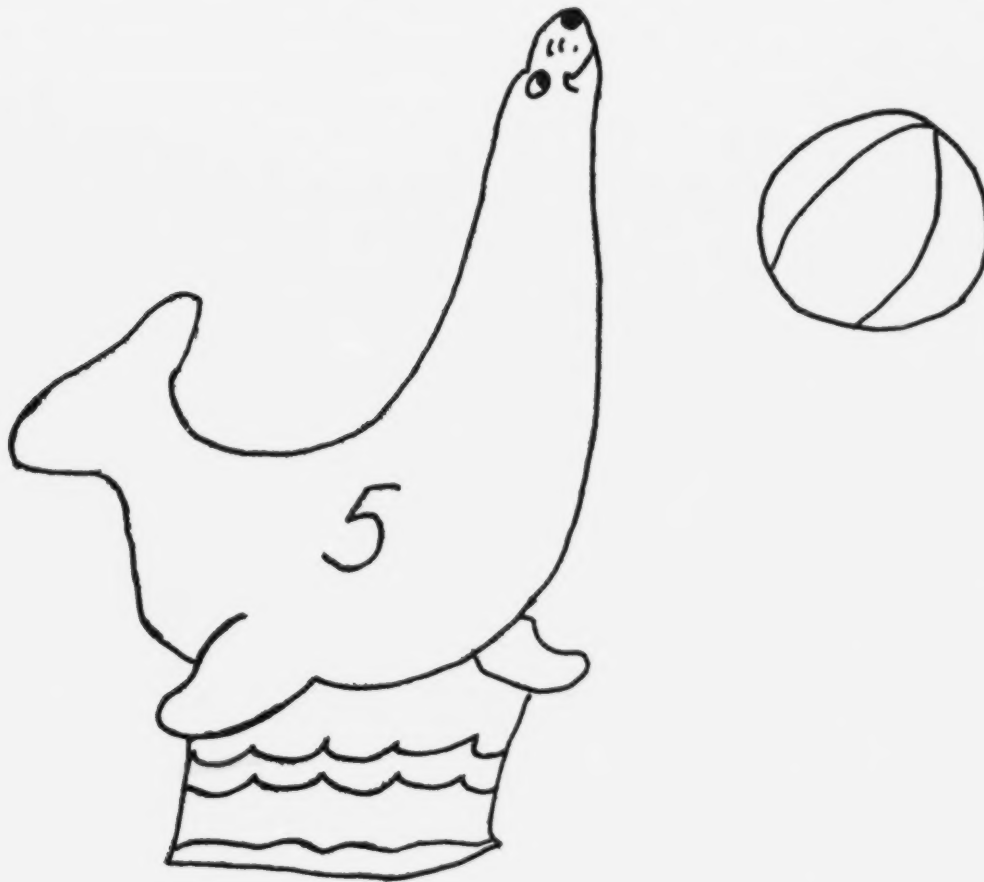


17. Cut out sea creature puzzles. Cut out a large picture of a sea creature and mount it on tag board. Cut this into different shapes or strips and store in an envelope. The children can assemble the puzzle, identify the sea creature, and label it.
18. Books illustrating a concept are popular. Cut several pieces of paper into the shape of a fish or other sea animal. Staple these together. The children can color the front and back covers to look like the sea creature. A story about this creature can be written or dictated on the center pages.
19. Have children think of words that rhyme with sea words such as: fish, shells, sand, whale, etc. Encourage them to use these rhyming words in a poem.
20. Sand painting is an interesting medium. Mix powdered paint with sand. Sprinkle over glue on construction paper to make a picture. Have children dictate a story about their painting.
21. Replay the story of Shamu the Whale. Shamu and his friends work at Sea World performing for people. Before each show, he and his friends like to eat fish. They will only eat the fish that has the same letter as the one on their side. Please feed them carefully.



Make a whale (capital letter) and a fish (lower case letter) for each letter of the alphabet.

22. Match the seals and balls. Sydney the Seal and his friends live at Sea World. They like to balance balls on their noses. Look at the number on each seal and give him that many balls to balance.



Make a Seal for each number 1-10 and enough balls for them to balance.



ENDICES

APPENDIX ONE

PRE-KINDERGARTEN SCREENING PROCEDURES PORTLAND PUBLIC SCHOOLS NARRATIVE

These Pre-school Screening Procedures were developed by a group of dedicated teachers and administrators of the Portland Public Schools who looked at what was already being done in Portland to screen pre-schoolers, gathered and studied the materials already being used, and then discussed and developed a process which would meet the requirements of state and federal laws. The objective of the pre-school screening is to identify areas of development which may require additional or special programming during the kindergarten year. Both state and federal laws require screening of all children entering school for the first time. According to the guidelines, the following components should be included in the Pre-School Screening.

- A. A statement from the child's parent or legal guardian concerning the child's development;
- B. A health assessment (parents must be instructed to bring immunization records);
- C. Assessments of the child's current and past educational status and progress;
- D. Vision assessment;
- E. Hearing assessment;
- F. Assessments of the child's cognitive and motor abilities;
- G. Assessments of the child's language functioning, in the child's primary language;
- H. Assessments of the child's behavioral and psychological functions.

In addition, the regulations require that records of the screening process should include:

- A. The date, place, name, and title of person(s) conducting the assessment;
- B. A description or example of the assessment procedure or form(s) used;
- C. The results of each assessment.

A data sheet on which to enter this information is included in these Pre-School Screening Procedures.

The regulations further state that "for all other students screened, a notation shall be entered in their cumulative record file to the effect that they were screened for special education purposes, and the date and place that screening was conducted."

The basic purpose of screening is to provide the kindergarten teacher with a better understanding of the individual child's level or pre-academic skills (audition, language, vision, motor, and speech) his attitude toward learning situations, and any emotional or social factors that might affect his ability to succeed in the regular kindergarten program. Knowledge of a child's abilities and limitations will help the teacher to structure learning situations so that the child meets success rather than frustration during this critical year. It is important that every effort be made to develop and maintain a positive attitude on the part of the child. This can be done by providing the child with opportunities for success. Any child identified by this screening as possibly needing additional programs must be referred to the school PET for more in-depth assessment so that an individual educational program (IEP) can be designed and early intervention can be accomplished.

This Pre-School Screening package describes one possible approach to a comprehensive screening program. It is a process which should alert us to the need for more in-depth assessments for children possibly in need of additional services. Individual schools wishing to do more in-depth evaluations are encouraged to do so.

GENERAL SCREENING PROCEDURES

Ideally all screening should be administered on an individual basis by personnel familiar with both the procedures and children of preschool age. It is important that all screening be administered exactly as prescribed by the manuals (where appropriate).

Some of the personnel who may be involved in the process might be: kindergarten teachers, reading consultants, special education teachers, speech therapists, special services consultants, principals and volunteers. Screening should be accomplished in a place free of distractions and equipped with appropriate furniture. The data generated by the process can be utilized to develop individual and/or group profiles. The profiles may then be used to implement individual and group programs. It might be helpful to make large charts with the left edge listing the children's names and the top edge listing the screening items. These charts indicate the entry performance of each child. Throughout the year they may be used to indicate the date of mastery for each item.

Data from the Boehm/Slater Cognitive Skills Assessment Battery can be used as a prekindergarten measure for later comparison with the kindergarten screening conducted by the reading consultants at the end of the kindergarten. Suggested comparisons are as follows:

Boehm/Slater	Kindergarten (Pre 1st grade)
Visual-motor coordination	Visual-motor integration
Symbol discrimination	Visual matching
Visual memory	Visual memory of word forms
Symbol discrimination and Letter-naming	Letter names
Visual-auditory discrimination	Auditory matching
Auditory discrimination	Sound Discrimination

In summary, it is important to remember the purpose of these procedures. They are explicitly designed for screening and not for diagnosis or labeling. If an area of concern is identified, the child should then be referred to the PET for complete evaluation. The regulation referring to sub-section 3124 of Title Twenty of the Maine Revised Statutes, Chapter 404 states that "If the screening process indicates that a student may require special education services in order to maintain his or her educational progress or potential, the student shall be referred to the Pupil Evaluation Team."

A suggested procedure for the pre-school screening follows:

- The children are taken to the kindergarten room where name tags are provided. They are taken from there to each of the different testing stations.
- At the test stations each examiner addresses the child by name and after the child has completed the assessment, affixes a specific colored star to the child's name tag to indicate that the child has already completed that specific assessment.
- Assessment stations might be as follows:

Station #1 - Activity Room (Kindergarten room)

This is a station in which the child may play while waiting to move through the process. Ensure that the room has a pleasant, related atmosphere, and that there are appropriate games and toys.

Station #2 - Developmental History, Health Form, and Past Educational Status

The parent goes to this station and the Developmental History questionnaire is discussed and/or completed. At this station, the MDECS Permanent School Health Record Form and the Portland Past Educational Status forms are also completed.

A. Development

1. Form: Developmental History
2. Description: Areas included are prenatal history, language and motor milestones and self-help skills.
3. Instructions: Parent completes and/or discusses history; serves as informant.
4. Interpretation
 - a. Person completing form circles item or items of concern.
 - b. Person completing summary data sheet to enter circled data under development section and enter comments.
5. Materials Needed: Developmental History Form
6. Examiner
 - a. Social Worker
 - b. School counselor
 - c. Principal or designee
7. Time: about 25 minutes
8. Placement of records: Completed development form and summary data sheet remain in the child's cumulative folder.

B. Health

1. Form: State of Maine Department of Education and Cultural Services Permanent School Health Record and child's current immunization record.
2. Description
 - a. Identification data
 - b. Health history
 - c. Health appraisal
3. Instructions
 - a. Completion of pages 1 and 2 of MDECS Health Form
 - b. Notations on page 3 when applicable.
4. Interpretation
 - a. Person completing medical sections to circle area or areas of concern.
 - b. Person completing summary sheet to enter circled data under health section and enter comments.
5. Materials Needed
 - a. Standard medical instruments
 - b. Permanent School Health Record
6. Examiner
 - a. Private physician or
 - b. School physician, school nurse, community health nurse, public health nurse.

7. Time: 30 minutes per child
8. Placement of records: Completed health forms, immunization record, and summary data sheet remain in child's cumulative folder.

Please Note: According to the policy of the Portland School Committee (April 25, 1979), all kindergarten children "enrolled in the Portland Public Schools in September, 1977 shall be immunized against diphtheria, pertussis and tetanus, poliomyelitis, measles, rubella and mumps." Valid religious or health exemptions were stated as the only exceptions to this policy. "A note of such exemption from this policy shall be presented in lieu of the certificate of immunization." Refer to section VI (immunizations and tests) of the child's Permanent School Health Record.

Children who have had medical examinations 12 months prior to school entry may not need to have an additional examination. However, their parents or legal guardian should make arrangements for the school to receive the information of these previous examinations. In such cases, the "Authorization for release of developmental and medical records" form should be used.

C. Past Educational Status

1. Form
 - a. Past Educational Status Form
2. Description
 - a. Determine child's previous educational experience.
3. Instructions
 - a. Complete form on Past Educational Status
4. Interpretation
 - a. Note experiences and information on Past Educational Status form.
 - b. Record information on summary Data Sheet and enter comments.

Station #3 - Visual Assessment - The child is taken to this station for the visual assessment.

D. Vision

1. Instrument: Keystone Visual Survey Tests
2. Description
 - a. Tests are administered with both eyes open to assess "usable binocular vision."
 - b. They provide information both at far point (the equivalent of a distance of twenty feet) and near point (referred to as the reading distance).
 - c. Monocular far and near point visual acuity and binocular visual acuity should be determined.
3. Instructions
 - a. If the child wears glasses, screening should be performed with glasses on as usual.
 - b. Use Preschool Test and Ready-to-Read Tests or Peek-a-Boo Series.
4. Interpretation
 - a. All children who show a vision deficiency should be referred to a vision specialist.

- b. Record results in comments section of summary data sheet.
- 5. Materials
 - a. Keystone Telebinocular Unit
 - b. Instruction manuals
 - c. Forms
- 6. Examiner
 - a. Reading consultant
 - b. Special education or resource room teacher
 - c. Trained volunteers
- 7. Time: 10 minutes per child for either procedure.
- 8. Placement of records: Completed vision form and summary data sheet remain in child's cumulative folder.

Station #4 - Audiological Assessment - The child is taken to this station for the hearing assessment.

E. Hearing

- 1. Instrument: Pure Tone Audiometric 25 db Sweep Test
- 2. Description: Screening audiometry is a rapid assessment using pure tones of designated frequencies (at a specified intensity level) to identify children who have no hearing loss and those who may have a hearing loss.
- 3. Instructions
 - a. Screen at 25 db level (ISG/ANST Standards)
 - b. Screen at frequencies of 500, 1000, 2000, 4000, and 8000 Hz
- 4. Interpretation
 - a. Lack of response at any frequency to either or both ears indicates a problem; a second screening should be administered within two weeks.
 - b. Failure on the second screening should be followed by administration of an individual pure tone threshold test and referral to a physician.
 - c. Record results in comments section of summary data sheet and enter comments.
- 5. Materials
 - a. Pure Tone Audiometer
 - b. Form for each child
- 6. Examiner
 - a. Speech therapist assigned to the school
 - b. Volunteers trained by the therapist
- 7. Time: 15 minutes per child
- 8. Placement of Records: Completed hearing form and summary data sheet remain in child's cumulative folder.

Station #5 - Cognitive and motor abilities (and part of language) assessment.

F. Cognitive and motor abilities

- 1. Instrument: Boehm/Slater Cognitive Skills Assessment Battery
- 2. Description: A criterion-referenced measure designed to provide a "Profile of Competencies."
 - a. Cognitive: Assessment of basic information, readiness skills, discrimination, memory, comprehension, and language.

- b. Motor: Assessment of fine and gross motor skills.
- 3. Instructions
 - a. Refer to administration and scoring procedures in test booklet and manual.
 - b. Complete all parts of assessment.
 - c. Complete "Response during assessment" section immediately after each child is assessed.
- 4. Interpretation
 - a. Refer to interpretive manual.
 - b. Note profile strengths and weaknesses.
 - c. Record results of summary data sheet and enter comments.
- 5. Materials needed
 - a. Boehm/Slater test booklet, form, and manual
 - b. Eight small blocks
 - c. Quiet room preferably with kindergarten furniture
- 6. Examiner
 - a. Special education or resource room teacher
 - b. Reading consultant
 - c. Psychological examiner
 - d. Kindergarten teacher
- 7. Time: 15-20 minutes per child
- 8. Placement of Records: Completed test form and summary data sheet remain in child's cumulative folder.

Station #6 - Language Assessment

G. Language

- 1. Instrument
 - a. Photo Articulation Test
 - b. Boehm/Slater Cognitive Skills Assessment Battery sections 6, 7, 8, 9 and 14 (as already done as part of cognitive-motor area)
- 2. Description
 - a. Photo Articulation Test: 72 pictures designed to elicit verbal responses for assessment of articulation.
 - b. Boehm/Slater: Information from pictures, picture comprehension, multiple directions, and vocabulary.
- 3. Instructions
 - a. Photo Articulation Test: Child is asked to name 72 pictures.
 - b. Boehm/Slater: Administer all of each section.
- 4. Interpretation
 - a. Photo Articulation Test: Record misarticulations as well as voice quality and fluency.
 - b. Boehm/Slater: Refer to section F (Cognitive and Motor abilities) of this narrative.
 - c. Record results on summary data sheet and enter comments.
- 5. Materials needed
 - a. Photo Articulation Test: Manual and form
 - b. Boehm/Slater: Manual, booklet, and form.
- 6. Examiner
 - a. Photo Articulation Test: Speech, hearing, and language therapist.

- b. Boehm/Slater: Refer to section F of this narrative.
- 7. Time per child:
 - a. Photo Articulation Test: 5 minutes
 - b. Boehm/Slater: no additional time (already done under cognitive/motor).
- 8. Placement of records: Completed test forms and summary data sheet remain in child's cumulative folder.

Station #7 Behavior and Psychological Functioning

H. Behavioral and Psychological Functioning

- 1. Form: Boehm/Slater Cognitive Skills Assessment Battery
- 2. Description: Response during assessment (Section 20 of Boehm/Slater)
- 3. Instructions
 - a. Complete 8 ratings of Section 20 of Boehm/Slater.
 - b. Complete immediately after each child is assessed.
- 4. Interpretation: Record results on summary data sheet and enter comments.
- 5. Materials Needed: Boehm/Slater Form
- 6. Examiner: Refer to Section F.
- 7. Time: Less than 5 minutes per child
- 8. Placement of Records: Completed form and summary data sheet remain in child's cumulative folder.

PRE-KINDERGARTEN SCREENING

School _____
 Name of child _____

Today's date _____ Date of birth _____ Current age _____
 Address _____ Phone _____

Parent (s) names _____
 Person completing this form _____ Relationship to child _____

Please answer the questions on this form in the best way that you can. You will be able to answer some quite easily and you will have difficulty in making a decision on others.

Your response on this questionnaire **does not** determine whether or not your child enters kindergarten. Your answers on this form **will help** the staff decide what kind of kindergarten program is best suited for your child.

This questionnaire is confidential and your responses will be shared only with professional personnel and only if the information learned will help in planning an educational program for your child.

Developmental History

A. Early Development

	Normal	Some Concern	Great Concern	Comments
1. Pregnancy:				
2. Delivery:				
3. Teething:				
4. Sitting:				
5. Walking:				
6. Talking:				
7. Feeding:				
8. Sleeping:				
9. Crying:				
10. Toilet Training:				

B. Family Background

- Parents live together _____; separated _____; divorced _____; deceased _____.
- Step-parents: Name _____ Relationship to child _____
- Names and order of all children (oldest first)

Name	DOB	Age	Sex	School/Grade attending	Living at Home	Comments

4. Others living in household:

Name

Relationship to child

5. Special interests, hobbies, talents of child and other family members.

Who

What

6. Specific responsibilities the child has at home.

	Normal	Some Concern	Great Concern	Comments
7. Relationship with mother:				
8. Relationship with father:				
9. Relationship with siblings:				
10. Relationships with other household members:				
C. Current Description of child:				
1. Is active				
2. Tires easily				
3. Plays with other children				
4. Spends time playing alone				
5. Complies with parent wishes				
6. Gets along with other children				

	Normal	Some Concern	Great Concern	Comments
7. Gets along with adults				
8. Experiences difficulty in expressing self				
9. Difficult to understand child when talking				
10. Seems happy				
11. Upset by changes in routine				
12. Demands much individual attention				
13. Has to be punished often				
14. Experiences confusion in following directions				
15. Experiences difficulty in remembering things				
16. Gives up easily				
17. Cries easily				
18. Generally is cooperative				
19. Fights with other children				
20. Sees relationship between his behavior & its consequences				
21. Has temper tantrums				
22. Experiences sickness frequently				
23. Is clumsy				
24. Is independent (finds ways to occupy his/her time).				
25. Clings to parent				

	Normal	Some Concern	Great Concern	Comments
26. Uses fork and spoon without help				
27. Catches objects thrown to him/her				
28. Loses balance, trips, falls				
29. Difficulty running				
30. Dresses self				
31. Washes and grooms self				
32. Cares for all toilet needs by self				
33. Is shy				
34. Vision				
35. Hearing				

Other:

1. What are some things which your child likes or dislikes to do which might be useful for us to know?
2. What have you found to be effective when you punish your child?
3. What rewards have been effective when you wish to reward your child?
4. Does child participate in activities outside of home (i.e., Y, Boy's Club, music lessons)?
5. Does child enjoy television? _____ less than 1 hour _____ less than 3 hours _____ more than 3 hours per day _____.
6. Does your child have any physical or other problems we should know about?
7. Is child receiving any regular medication?
8. Has child ever had lead poisoning?
9. Would you like an individual conference?
10. Any additional comment you wish to make?
11. Do you have time to share as a volunteer in our schools? _____ Yes _____ No.
Special area of interest:
Tutoring _____ Clerical _____ Other _____

PAST EDUCATIONAL STATUS

Name of child: _____ Date: _____

Informant: _____ Relationship: _____

1. Previous school experience:

TYPE	NAME	HOURS	DAYS/WEEK	DATES ATTENDED
Nursery School				
Co-operative				
Programs				
Head Start				
PROP				
Day Care				
Other (specify)				
None				

2. Describe aspects of the program your child likes best:

3. Describe aspects of the program which your child likes least:

4. What do you think contributed most to the positive development of your child?

5. Describe any problems which may have arisen in child's past educational experience:

6. Your child's teacher in the pre-school program: _____

7. Other language spoken in home: No _____ Yes _____
Language _____

Name: _____ Date: _____

School: _____

KEYSTONE VISUAL SURVEY TESTS

The Keystone Preschool Test

Name the things in the top row.

Second row

Third row

Fourth Row

Set at far point.

Rooster - Rabbit - Cat

Squirrel - Skillet - Glass

Apple - Horse - House - Chicken

Table - Cow - Duck - Pear

The Keystone Ready-To-Read Tests

Card 1 - How many blocks do you see?

3 blocks

Card 2 - Does the arrow point at the yellow, red or green part of the line?

Yellow

Does the yellow line pass through the red ball, above it, or below it?

Through the red ball

Card 3 - Name the things in the top row.

Rooster - Rabbit - Cat

Second Row

Squirrel - Skillet - Glass

Third Row

Apple - Horse - House - Chicken

Fourth Row

Table - Cow - Duck - Pear

Was the student wearing glasses during the tests? _____

PAT RECORDING SHEET

Name _____ Date _____ Year _____ Month _____ Day _____
 School _____ Birth _____
 Grade _____ Age _____

Key: Omission (-); substitution (write phonetic symbol of sound substituted); severity of distortion (D1), (D2), (D3); ability to imitate (circle symbol or mark error).

Sound	Photograph	1	2	3	Vowels, Diph.		Comments
	I				III		
	saw, pencil, house				house		
	spoon, skates, stars						
	zipper, scissors, keys						
	shoe, station, fish				shoe		
	chair, matches, sandwich						
	jars, angels, orange						
	table, potatoes, hat				hat		
	dog, ladder, bed				dog		
	nails, bananas, can				bananas		
	lamp, balloons, bell				bell		
	blocks, clock, flag				blocks		
	thumb, toothbrush, teeth				teeth		
	radio, carrots, car						
	brush, crayons, train				train		
	cat, crackers, cake				crackers		
	gun, wagon, egg				gun		
	II						
	fork, elephant, knife						
	vacuum, TV, stove				vacuum		
	pipe, apples, cup				pipe		
	book, baby, bathtub				book		
	monkey, hammer, comb				comb		
	witch, flowers, whistle				witch		
	III						
	this, that, feathers, bathe						
	hanger, hunger, swing						
	yes, thank you						
	measure, beige				boy		
	(story)				bird		

SCORE

Sound

I Tongue _____

III Vowels _____

II Up _____

TOTAL _____

CONNECTED SPEECH AND LANGUAGE

(Elicit story and conversation. Note language, intelligibility, voice, fluency.)

ADDITIONAL DIAGNOSTIC INFORMATION

(Hearing loss, motor coordination, perceptual deficiencies, emotional factors, attitude toward disorder and treatment).

THERAPY GOALS AND PROGRESS

SUMMARY DATA SHEET

Screening Record

Date: _____

Student: _____ DOB: _____ School: _____ Grade: _____

A. **Developmental History:** Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

Informant and relationship to child: _____

COMMENTS: _____

B. **Health:** Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

Informant and relationship to child: _____

COMMENTS: _____

C. **Educational:** Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

Informant and relationship to child: _____

COMMENTS: _____

D. **Vision:** Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

COMMENTS: _____

E. **Hearing:** Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

COMMENTS: _____

F. **Cognitive & Motor:** Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

COMMENTS: _____

G. Language: Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

COMMENTS: _____

H. Behavioral & Psychological: Title of Exam: _____

Date: _____ Examiner & Title: _____ Place: _____

COMMENTS: _____

Date: _____

Summary:

Appears with no areas of concern _____

Areas of concern exist _____

Referred to PET evaluation on _____

Signature: _____

**AUTHORIZATION FOR RELEASE OF DEVELOPMENTAL
AND MEDICAL RECORDS**

Date: _____

TO: _____

To: _____

Dr. _____

I hereby authorize the release of developmental and medical information concerning:

_____ Birth Date: _____
name of child

Signed:

Signature of parent or guardian

Address

Please send the information I have authorized to be released to:

NAME: _____, Principal

SCHOOL: _____

ADDRESS: _____

Thank you for your co-operation.

APPENDIX TWO

SELECTED LIST OF SCREENING AND ASSESSMENT INSTRUMENTS FOR YOUNG CHILDREN*

Motor Development	Bruininks-Oseretsky Test of Motor Proficiency (Bruininks 1977) Developmental Test Visual-Motor Integration (Berry & Buktenica 1967) Southern California Perceptual Motor Tests (Ayres 1969)
Verbal Comprehension and Expression	Receptive-Expressive Emergent Language Scale (Bzoch & League 1971) Illinois Test of Psycholinguistic Abilities (Kirk, McCarthy & Kirk 1968) Goldman-Fristoe Test of Articulation (Goldman & Fristoe 1969) Verbal Language Development Scale (Mecham 1958) Test of Language Development (Newcomer & Hammill 1977)
Vision:	Home Eye Test for Preschoolers (National Society for the Prevention of Blindness 1975) Frostig Developmental Test of Visual Perception (Frostig, Lefever, and Whittlesey 1964)
Auditory: Acuity perception	Wepman Auditory Discrimination Test (Wepman 1958) Goldman-Fristoe-Woodcock Test of Auditory Discrimination (Goldman-Fristoe & Woodcock 1970) Audiological examination
Cognitive	Boehm Test of Basic Concepts (Boehm 1971) Basic Concept Inventory (Engelmann 1967) Basic School Skill Inventory (Goodman & Hammill 1975)

*Source: McLaughlin, James A., and Kershman, Susan M., "Mainstreaming in Early Childhood", *Young Children*, May, 1979, pp. 54-66.

Leiter International Performance Scale
(Leiter 1948)

Adaptive/Self Help	Bayley Scales of Infant Development (Bayley 1969) Vineland Social Maturity Scale (Doll 1965) AAMD Adaptive Behavior Rating Scale (Nihira, Foster, Shellhaas, and Leland 1969)
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Comprehensive	Denver Developmental Screening Test (Frankenburg, Dodds & Fandal 1970) Learning Accomplishment Profile (Sanford 1975) Performance Objectives for Preschool Children (Schirmer 1974) Comprehensive Identification Process (Lehrbach 1975)
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APPENDIX THREE

LEARNING CENTER EQUIPMENT

ART CENTER

variety of paper:

fingerpaint paper, construction,
computer, tissue, newsprint,
tagboard, poster board,
mural paper

scissors

stapler and staples

scotch tape

glue

paste

collage materials

glitter

sequins

cotton balls

varied size and textured paint brushes

scissors right and left handed

smocks or old shirts

clay

playdough

fingerpaint

sugar-flour paste

soap paint

colored chalk

crayons

powdered paints

food colors

pens-varied colors

felt pens

pencils

card board tubes

paper plates

discarded, clean tooth brushes

assorted sponge pieces

straws

SCIENCE CENTER

large aquarium

terrarium

ant farm

pets

pets cages with exercise

wheel and tunnels

insect cage

pulley with rope and chain

incubator

seeds

flower pots, vases

shells, rocks

binoculars

microscope

magnifying glass

magnets

thermometer

scales

dry cell batteries

prism

flashlight

ribbons for measuring

sponges

driftwood

bird nest

eggs

tuning fork

measuring spoons

measuring tape

MATH CENTER

counter

scales

timers

measurement tools, ribbons

clocks

cuisinaire rods

washers, buttons

thermometers

puzzles

geoboards

playing cards

number lines

measuring cups

spoons

checkers
attribute blocks
small cubes
number charts
letters and number symbols

COOKING CENTER

measuring spoons
measuring cups
electric fry pan
portable oven
hot plate
mixing bowls
rolling pin
cookie sheets

BLOCK CENTER

unit blocks - all sizes and shapes
large wooden blocks - all sizes
and shapes
plastic blocks

HOUSEKEEPING/ROLE PLAYING CENTER

wastebaskets
sponges
scrub brushes
carpet sweeper
brooms
sponge mop
dust cloth
4 chairs and table
1 set unbreakable dishes
tea set
cooking equipment
chest of drawers
rocker
rug
sink

PROP BOXES

grocery store box
carpenter's box
fire station box

plumber's box
post office box
beauty shop box

weights
compasses
objects to classify, sort
and seriate

popcorn popper
egg beater
pots and pans
colander
knives
sponges
dishpan

Lincoln Logs
Legos
tinker toys
accessories for block play:
trucks, cars, small people, ani-
mals, cards for labeling, etc.

briefcase
couch
doll carriage
dolls
dollclothing
cradle
laundry set
iron and ironboard
toy telephones
mirror
wide array of costumes
all kinds of hats
doctors and nurses uniforms
menus
wigs

doctor's office box
gas station box
shoe store box

WOODWORKING CENTER

one work bench
two wood vices
hammers
nails
saws
scrap soft lumber
glue
assorted building materials

pliers
screwdrivers
screws
drill and bit
ruler
tape measure
sandpaper
things to take apart: old clocks,
radios, small machines

MUSIC AND MOVEMENT CENTER

triangle
drums
tambourine
bells
ankle bells
record player
records
maracas

cymbals
finger cymbals
sand block
rhythm sticks
xylophone
tape recorder
dance costumes
portable chord organ

LIBRARY CORNER

book racks
books displayed with covers visible
rug and sit upons
rocking chair
couch
large cushions
flannel board and materials
puppets
book markers
nursery rhymes

animal books
wordless books
children's home-made books
comic books
children's magazines
talking books
catalogues
picture dictionaries
poetry
books related to unit being studied

MANIPULATIVES CENTER

hand puppets
sock puppets
stick puppets
puzzles
dominoes
pegboards and pegs
snap together toys

homemade bean bags
counting cubes
geoboards
interlocking blocks
beads on string
lacing, snapping, and zipping sets

SAND* AND WATER CENTER

sink or large baby bath
containers of various sizes with
different sized openings
food coloring
soap flakes
straws
funnels
eggbeaters
squeeze bottles

large basin or sand
table
strainers
shovels
pails
sifters
tubes
*some prefer to use cornmeal rather than sand

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APPENDIX FOUR

CHECKLISTS FOR PLANNING, USING, LEARNING AND EVALUATING CENTERS

1. **Study educational goals and decide upon the type of center:**
 - a. Is the center appropriate to the educational goals? Would another method of individualization be more appropriate?
 - b. What are the purposes which the center will serve?
2. **Specify objectives**
 - a. What objectives of the curriculum will be met in this center?
 - b. Is there sufficient space for this center? If not sufficient space how can I modify my plans for the center and still have it function effectively?
 - c. How do my objectives relate to the interests, skills, and talents of the children?
 - d. How will I communicate my objectives to the children (i.e., tape recorder, task cards, oral directions, peer instruction).
3. **Choose the optimum space and determine the center's design:**
 - a. How much space can I allocate to the center?
 - b. Will there be more than one center in the room?
 - c. How might the children's size and motor skills affect their use of space?
 - d. What equipment and furniture are needed?
 - e. Will the location of the center affect other classroom activities? How?
 - f. Does the center require special physical/environmental conditions (e.g., electric outlets; sunlight)?
4. **Gather needed furniture and materials:**
 - a. Are the needed furniture and equipment available in the classroom, school, school system, community?
 - b. Can older students, parents, aides, volunteers collect or construct necessary furniture and equipment?
 - c. What instructional materials are needed?
 - d. Will each material match a specific instructional objective?
 - e. Are the materials available in the classroom, school, school system?
 - f. Do I have resource materials (e.g., idea books) to aid me in developing materials?
 - g. Can parents, aides, older students help me in gathering and/or making materials?
5. **Designing learning materials:**
 - a. Are the materials consistent with my instructional goals?
 - b. Do they meet the needs of my students?
 - c. Are there at least two different materials at each level of difficulty? For each learning style?
 - d. Do the materials reflect the varied interests of the children?
 - e. Are the directions clear? Do the children know:
 1. What to do with materials?
 2. What to do with the materials when they have completed them?
 - f. Are the materials easily accessible to the children?
 - g. Is there a variety of media and materials (e.g., games, books, filmstrips, construction activities)?

6. **Prepare instructions for students use of the center:**
 - a. How many children can use the center at one time?
 - b. Will students choose the center or be assigned to it?
 - c. How will I implement student choice of center? Assigning students?
 - d. Are the directions for the use of materials and activities available to the children? Do they understand them?
 - e. What are the rules for behavior at the center?
 - f. How will students choose materials and activities in the center?
 - g. How will I assess student progress?
7. **Develop a management system for the center:**
 - a. What alternatives do I have for a management system?
 - b. Is my management system appropriate for the age and ability of the children?
 - c. Does the management system facilitate easy record keeping?
 - d. How will I build in conference time? On-the-spot assistance, questioning, etc.?
 - e. How will I schedule use of the center?
8. **Set up the center:**
 - a. Is it attractive?
 - b. Are the materials and activities easily accessible?
9. **Introduce the center:**
 - a. Are the children well informed about the purposes, procedures, and management of the center?
 - b. Will role playing provisions be included in the center?
 - c. Are the rules for behavior clear?
 - d. Do the children know what to do in the center?

While the above questions focus on planning and implementation of centers, they can also be used in formative (on-going) and summative (final) evaluation of center effectiveness.

APPENDIX FIVE

LEARNING CENTERS: MATERIALS AND LEARNING OUTCOMES

Center	Variations	Materials	Possible learning or benefits
DRAMATIC	Housekeeping	dolls, doll furniture, dressup clothes, dishes, cutlery, cleaning implements, telephone; add food, flowers, etc. as play develops	Self-expression, language for communication, social roles, one-to-one correspondence, belonging, identity, self-concept problems solving
	Store	play money, shelves, empty cans and cartons, purses, hats	Names of coins, one-to-one correspondence, buying and selling, social exchange, language
	Doctor's	uniforms, play thermometer, stethoscope, flashlight, spoons, used pill boxes, sugar pills, or M&M's, throw-away syringes (minus the needles) bandages	Reduction of fear of doctors, social roles, health care; language for communication
	Post Office	play money, used stamps and envelopes, paper and pencils, scales, caps	Sending messages, buying and selling, communication forms (symbols)
	Restaurant	tables and chairs, cutlery, dishes, aprons, paper napkins, simple foods (apples, crackers, lemonade), play money	Social exchange, language for communications, one-to-one correspondence, self-expression
	Puppets	hand puppets	Self-expression, language communication, sequence, self-concept, creative thinking
BUILDING AND CONSTRUCTION	Blocks	blocks of various sizes and shapes, toy animals and people, cars and trucks	Cooperation, observations, mathematics (more, less, higher, shorter, number), self-expression, geography (farms, zoos, towns, houses), classification, seriation
	Carpentry	scrap lumber, nails, hammer, saw, drill	Cooperation, care of materials, safety balance, self-expression
	Pipes	scraps of threaded pipes from plumber, elbows, wrench	Self-expression, physical properties of metals, mathematics (shorter, longer)
MANIPULATIVE MATERIALS	Puzzles	inset puzzles	Whole-part concepts, likenesses, and differences, fine motor skills
	Beads	long strings with metal tips, large wooden or plastic beads of different colors and shapes.	Color and shape discrimination, mathematics (number, longer, shorter) fine motor skills

Center	Variations	Materials	Possible learning or benefits
236	Pegboards	Various types of perforated boards with pegs or tiles, cards with printed numbers	Color discrimination, number relations, patterns, fine motor skills
	Matching games	Lotto or Bingo type games (commercial), matching shapes, or colors, matching numbers and quantities	Likenesses and differences, language for communication, names of shapes, colors, objects, social skill of game playing - taking turns, etc., terms alike, different
	Parquetry or small table blocks	Blocks of different colors that can be fitted into a pattern	Discrimination of color and balance, care of materials, counting, fine motor skills.
	Cuisenaire rods, stern rods, etc.	Materials of precise mathematical proportions	Number relationships
	ART Painting	Water mixed tempera paints, brushes, old shirts for smocks, paper sponges and water, table or easel	Discrimination of colors, properties of paints, expression of feelings and concepts, care of materials, creativity, fine motor skills
	Clay	Modeling or salt-and-flour clay, sticks, rolling pin, table knives	Expression of feelings and concepts development of imagination, creativity, fine motor skills
	Crayons	Crayons and paper, flat materials of different textures of rubbings	Expression of feelings and concepts, development of imagination, colors, textures, creativity, fine motor skills
	Scissors and paste	Scissors, paste or glue, paper catalogs, and magazines	Likenesses and differences, expansion of vocabulary, matching, self-expression, color discriminations, fine motor skills
	Collage	Paper or paper plates, variety of scrap materials (may be collected on nature walk)	Textures, self-expression, observation, esthetic appreciation, creativity, fine motor skills
	MUSIC Rhythm instruments	Drums, rattles, sandpaper, blocks, rhythm sticks, tambourines, bells	Esthetic appreciation of self-expression, rhythms, movements, sound discrimination
	Listening I	Record player, records, scarves, streamers	Esthetic appreciation, rhythm, sound discrimination, self-expression, movement
LANGUAGE	Books	Shelves, books, rug, cushions, rocking chair, display racks, pictures	Association of written words (symbols) with spoken, appreciation of stories, sequence of events, communication of ideas, socializing influence

Center	Variations	Materials	Possible learning or benefits
SCIENCE AND MATH	Alphabet	Cut-out plastic letters, sand paper letters	Letter recognition, alphabetical sequence
	Communication	Tape recorder, cassettes	Practice in communication and use of oral language, imagination, self-expression, sequence, verbalization of feelings and impression, self-concept
	Writing	Paper (lined and plain) pencils, stapler, crayons, models of letters and words, children's own books	Writing, reading
	Plants	Paper or styrofoam cups, earth, seeds, water, sweet potato, etc	Plant needs for growth, germination, problem solving
	Aquarium	Tank, water, sand, filter, fish, plants, magnifying glass	Aquatic life forms, release of tension, curiosity and wonder, sense of discovery
	Magnets	Magnets of different sizes, objects of various materials (metal and non-metals)	Attraction and repulsion, properties of magnets
	Balance	A balance rod, cups to hang on it, jars of beans, stones, marbles, etc	Equilibrium, discrimination of weights, problem solving
	Counters	Objects in cans; beans, nuts, macaroni, stones, poker chips, plastic straws, abacus	Classification, grouping, comparing: likenesses and differences, counting, one-to-one correspondence, vocabulary (more, less, same)
	Sand and Water	Sand in a box, water pitchers, measuring cups, spoons, cans, basin, objects that will float or sink	Release of tension, comparison of amounts, conservation of volume, absorption, buoyancy, displacement
	Light, Magnification, Color Soap bubbles	Magnifying glass, kaleidoscope, colored plastic sheets, mirrors Several cans, soap chips, glycerine, water, plastic straws, wire hoops	Esthetic appreciation, colors, mixing colors, reflections, sense of discovery Breath control, duration, refraction, pleasure
	Nesting or graduated objects	Nesting materials, materials that can be arranged in progressively larger sizes	Larger and smaller, classification, seriation, vocabulary (like, different, same, more)

Adapted from:

York, Mary Elizabeth, "Learning Centers in the Early Childhood Classroom", in Golubchick, Leonard and Persky, Barry, *Early Childhood Education*, Wayne, New Jersey: Avery Publishing Group, Inc., 1977, pp. 119-121.

APPENDIX SIX

SUGAR CONTENT OF COMMERCIALY AVAILABLE BREAKFAST CEREALS*

While it has long been established that frequency of sugar intake is a critical factor in decay initiation, evidence is also accumulating that sugar concentration is important. Some investigators believe that any sugar or starch when ingested frequently, is a dental hazard. Others have reported a correlation between decay incidence and sugar concentration. The lower the percentage of sugar, the more acceptable is the cereal dentally and nutritionally.

Cereal	Sugar	Cereal	Sugar
Shredded Wheat (large biscuit)	1.0	40% Bran Flakes (Post) Team	15.8 15.9
Shredded Wheat (spoon-sized biscuit)	1.3	Brown Sugar Cinnamon Frosted Mini Wheats	16.0
Cheerios	2.2	40% Bran Flakes (Kelloggs)	16.2
Puffed Rice	2.4	Granola	16.6
Uncle Sam Cereal	2.4	100% Bran	18.4
Wheat Chex	2.6	All Bran	20.0
Grape Nut Flakes	3.3	Granola with almonds and filberts	21.4
Puffed Wheat	3.5	Fortified Oat Flakes	22.2
Alpen	3.8	Heartland	23.1
Post Toasties	4.1	Super Sugar Chex	24.5
Product 19	4.1	Sugar Frosted Flakes	29.0
Corn Total	4.4	Bran Buds	30.2
Special K	4.4	Sugar Sparkled Corn Flakes	32.2
Wheaties	4.7	Frosted Mini Wheats	33.6
Corn Flakes (Kroger)	5.1	Sugar Pops	37.8
Peanut Butter	5.2	Alpha Bits	40.3
Grape Nuts	6.6	Sir Grapefellow	40.7
Corn Flakes (Food Club)	7.0	Super Sugar Crisp	40.7
Crispy Rice	7.3	Cocoa Puffs	43.0
Corn Chex	7.5	Cap'n Crunch	43.3
Corn Flakes (Kellogg)	7.8	Crunch Berries	43.4
Total	8.1	Kaboom	43.8
Rice Chex	8.5	Frankenberry	44.0
Crisp Rice	8.8	Frosted Flakes	44.0
Raisin Bran (Skinner)	9.6	Count Chocula	44.2
Concentrate	9.9	Orange Quangaroos	44.7
Rice Crispies (Kellogg)	10.0	Quisp	44.9
Raisin Bran (Kellogg)	10.6	Boo Berry	45.7
Heartland with Raisins	13.5	Baron Von Redberry	45.8
Buck Wheat	13.6	Cocoa Krispies	45.8
Life	14.5	Trix	45.9
Granola with dates	14.5	Fruit Loops	46.6
Granola with raisins	14.5	Honeycomb	47.4
Sugar Frosted Corn Flakes	15.6		

*Center for Community Dental Health April, 1976.

Pink Panther	48.8	Fruity Pebbles	55.0
Cinnamon Crunch	49.2	King Vitaman	58.5
Lucky Charms	50.3	Sugar Smacks	61.3
Cocoa Pebbles	50.4	Super Orange Crisp	68.0
Apple Jacks	53.5		

APPENDIX SEVEN

RECIPES

The following recipes are duplicates of those found throughout this guide with measurements stated in familiar units.

COOKING UNIT

Apples

a. **Apple sauce** (makes 18 - $\frac{1}{4}$ cup servings)

18 apples	$\frac{1}{2}$ cup sugar
1 cup water	a few grains of salt
$\frac{1}{2}$ Teaspoon cinnamon	

Wash apples. Cut into quarters. Put apples, water and salt in saucepan or electric frypan and bring to boil. Then lower heat and simmer until soft (15-20 minutes). Pour part of cooked apples into food mill placed over a large glass bowl. (If mill is unavailable, peel, core, and slice apples before cooking). Remove mill after pressing all the apples, and stir in sugar and cinnamon. Spoon about $\frac{1}{4}$ cup of applesauce into small paper cups and serve.

b. **Baked apples** ($\frac{1}{2}$ apple per serving)

Wash, wipe, and core McIntoch, Northern Spy, or Cortland apples. Fill with raisins, crushed pineapple, or banana chunks. Add 1 teaspoon brown sugar to center. Bake in covered dish for 10 minutes at 350°. Remove cover and bake 20-30 minutes longer, or until the peel is tender. Serve warm or cold.

Peanut Butter

a. **Playdough** (enough for 10 children)

2 cups powdered milk (instant or non-instant)
2 cups peanut butter
1 cup honey

b. **Making peanut butter**

2 cups toasted peanuts in shell
2 tablespoons salad oil
salt to taste

Shell the peanuts and put them through a grinder or blender. (If a hand-type meat grinder is used, you may wish to put the peanuts through twice). Add oil and salt.

Butter

1 pint heavy or all-purpose cream
 $\frac{1}{2}$ teaspoon salt
 $\frac{1}{2}$ teaspoon yellow food coloring

Pumpkin cookies (4 dozen)

1/3 cup shortening	4 teaspoons baking powder
1 cup sugar	1/4 teaspoon salt
2 eggs	1/2 teaspoon ginger
1 teaspoon vanilla	1/2 teaspoon nutmeg
1 teaspoon lemon extract	1 cup raisins
1 cup mashed cooked pumpkin	1/2 cup chopped nuts
2 1/2 cups flour	

Cream shortening and sugar, beat eggs in well. Stir in vanilla and extract. Put pumpkin through a sieve and add, mixing well. Sift dry ingredients and add with the raisins and nuts. Mix thoroughly. Drop by teaspoonful onto greased cookie pan and bake about 15 minutes at 375°.

Thanksgiving Sherbert

1 lb. can cranberry sauce	2 egg whites
1/2 cup orange juice	1/4 cup sugar
3 tablespoons lemon juice	

Put cranberry sauce into bowl and beat with hand beater until soft and smooth. Mix in orange and lemon juice and freeze until mushy. Turn mixture into cold bowl and beat again until smooth. In another bowl, beat egg whites until they peak. Add the sugar and beat lightly again. Fold into chilled mixture and freeze until firm.

Beef Stew (approximately 25 small servings per crock pot)

Each child can bring something from home for this sharing activity done at Thanksgiving. For a class of twenty children, a typical breakdown of ingredients follows:

- 4 children - 1/2 pound stewing beef each
- 4 children - 3 potatoes each
- 4 children - 4 carrots each
- 1 child - 2 stalks celery
- 3 children - 2 onions each
- 2 children - 1 can beef bouillon each
- 2 children - styrofoam cups and napkins

Shape cookies

- 1 cup softened margarine
- 1 cup brown sugar
- 1/3 cup honey
- 1/4 cup water
- 1/2 teaspoon salt
- 1/2 teaspoon soda
- 3 cups flour
- life savers or small lollipops

Blend all ingredients except candy and preheat oven to 325°. Shape dough in varied configurations on wax paper. Place on cookie sheet. Bake 5 to 8 minutes. Remove from oven. Fill cookies with the candy. Place back in oven and cook another 5 to 8 minutes.

Betty Crocker's Paintbrush Cookies (5 dozen)

1/3 cup shortening	2 1/4 cups sifted flour
1/3 cup sugar	1 teaspoon baking soda
1 egg	1 teaspoon salt
2/3 cup honey	
1 teaspoon vanilla	

Mix thoroughly first 5 ingredients, then stir in last three. Chill. Heat oven to 375°. Roll dough on floured surface to 1/4 inch thickness. Cut in different shapes. Set on greased baking pan. Paint designs with egg yolk paint. Bake 8-10 minutes.

Egg Yolk Paint

Blend well 1 egg yolk and 1/4 teaspoon water, divide mixture among several small cups and add a different food coloring to each. Paint designs on the cookies with small paintbrushes.

Irish Soda Bread (St. Patrick's Day)

4 cups unsifted flour
1 teaspoon salt
1/4 cup sugar
1 tablespoon baking powder
1 teaspoon baking soda
1/3 cup margarine
2 cups dark seedless raisins (optional)
1 1/2 cups buttermilk or sour milk (to make 1 1/2 cups sour milk, use 1 1/2 cups sweet milk and 1 tablespoon vinegar)
1 egg, beaten

Blend together all dry ingredients. Cut in margarine until mixture resembles coarse meal. Add raisins, milk and egg, and stir until blended. Knead on floured pastry board about one minute or until smooth (each child may count to ten and knead). Shape dough into two balls and place each in a greased 8" round cake pan. Flatten to fill the pans and cut a deep cross in top of each loaf. Bake at 375° for forty minutes.

Blueberry muffins in ice cream cones

These can be made from a "mix" or recipe as follows: (One muffin mix makes 40 ice cream cones filled to 1/2 to 2/3 full. This prevents scorching on the top of the ice cream cone).

1 egg, beaten	1 tablespoon baking powder
1 cup milk	
1/4 cup melted shortening	1/2 teaspoon salt
2 cups sifted whole wheat flour	1/4 cup sugar or molasses
1/4 cup wheat germ	1 1/2 cups berries

Combine milk and egg. Stir into dry ingredients. Add shortening. Stir lightly; batter should be lumpy. Add blueberries and barely mix them in. Each child places a cone in a space in a muffin pan and fills the cone 1/2 to 2/3 full. Bake 15-20 minutes.

Color Unit

Making Varied Color Playdough

2 cups flour
1 cup salt
2 tablespoons cooking oil
water
Powdered tempera or food coloring

Mix the flour and salt and blend in the coloring. Add enough water to make a kneading consistency and then work in the oil to prevent dough from sticking to hands. Place dough in plastic bags and keep in refrigerator.

December Holidays Unit

Gingerbread Faces for Christmas

Put in mixing bowl:
2 teaspoons ground ginger
1 teaspoon cinnamon
 $\frac{1}{2}$ cup firmly packed light brown sugar
 $1\frac{1}{2}$ teaspoon salt
 $\frac{2}{3}$ cup soft margarine or butter
 $\frac{1}{4}$ teaspoon ground cloves

Mix well. Then, beat the batter until it is light and fluffy.

Add 1 egg. Beat again.

Add $\frac{3}{4}$ cup molasses. Beat again.

Add 3 cups all-purpose flour
1 teaspoon baking soda
1 teaspoon baking powder

Mix slowly so that the flour doesn't fly up in the air. Refrigerate. Bake at 375°.

Food and Nutrition Unit

Wheat Thins

2 cups whole wheat flour	2 tablespoons dry milk powder
1 teaspoon wheat germ	6 tablespoons margarine
1 teaspoon salt	$\frac{1}{2}$ cup water
1 teaspoon baking powder	1 tablespoon molasses

Combine dry ingredients. Cut in the margarine with the pastry blender.

Combine water and molasses. Add to dry ingredients. Grease 2 cookie sheets. Divide dough in $\frac{1}{2}$ and roll directly onto cookie sheet. Roll as thin as possible. Prick with a fork, and cut in squares. Bake 10 minutes at 350°.

Cheese Thins

1 cup grated sharp cheese	$\frac{1}{3}$ cup margarine
$\frac{1}{2}$ teaspoon salt	3 tablespoons milk
1 $\frac{1}{3}$ cups flour	

Mix cheese, salt and flour. Cut in the margarine with the pastry blender. Sprinkle with the milk. Mix all together and form into a ball. Cut the ball in half and roll each half directly onto a cookie sheet that has been sprinkled with a little flour. Prick dough with a fork. Cut into squares. Bake about 10 minutes or until light brown at 375°.

Sesame Seed Super Squares

$\frac{1}{2}$ cup honey	1 cup powdered milk
$\frac{1}{2}$ cup peanut butter	$\frac{1}{2}$ cup unsweetened cocoa
1 cup sesame seeds.	

Heat honey and peanut butter in a deep pot. Add milk, cocoa and sesame seeds. Mix and pat into a flat, shallow pan. Refrigerate and then cut in cubes. Serve.

Recipe for Stone Soup

3 quarts of water	4 stalks of celery, chopped
1 pound of ground meat (can be omitted)	4 small onions, chopped
4 carrots, peeled and sliced	$\frac{1}{4}$ head of cabbage
1 can tomatoes, chopped	salt
1 smooth stone	

Add all other ingredients to stone and simmer until tender.

Dried Fruit Snack

1 cup raisins	1 cup coconut
1 cup dried prunes	1 cup chopped figs
1 cup chopped nuts	

Put all ingredients through a food grinder (sticky, but a good motor activity). Form into balls and roll in more coconut.

Beach Unit

Irish Moss Pudding (blanc-mange)

1 cup Irish moss	1 teaspoon vanilla
4 cups milk	$\frac{1}{2}$ teaspoon salt
$\frac{1}{2}$ cup sugar	2 tablespoons cocoa or other flavoring

Soak Irish moss in water for a few minutes. Clean and drain. In a double boiler, cook milk and Irish moss for 20 minutes, stirring continuously. Strain out seaweed. Add sugar, salt, and flavoring. Cook for an additional 5 to 10 minutes. Add vanilla. Chill.

APPENDIX EIGHT

ADDITIONAL RESOURCES FOR TEACHERS

Journals

Childhood Education

Day Care and Child Development

Early Years

Language Arts

The Reading Teacher

Young Children

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Kindergarten

Child

Garden



and

Mary, Mary, quite contrary
How does your garden grow!
With silver bells + cockle shells
And pretty maids in a row.

